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New Wells Just About Offset Declines

Average daily production in United States week ending Feb. 9, 1,925,165 bbls.

Production of Crude Petroleum About Stationary With Nothing in Sight to Indicate Any Material Increase Soon

By Andrew M. Rowley

Gain in daily production in United States week ending Feb. 9, 3,280 bbls.

Despite increased activity in drilling operations reported from practically every crude oil producing area of the United States as a result of the material increases in the posted prices of crude announced since the first of the year, production at this time is barely holding its own. In other words, the initial output of wells being completed in the various fields is just about offsetting the natural decline in production of the older wells.

This is a condition which was forecast some time ago and the present situation is bearing out the prediction that the petroleum industry of the United States, during this year, will be confronted with the reverse of the problem faced during 1923 unless new fields with a large and steady output are discovered. Instead of a rising tide of overproduction menacing the industry, the problem presented now is of a constantly increasing consumption resulting from a wider distribution and greater requirements, with production practically remaining stationary.

Production of crude petroleum during the past week averaged 8,000 barrels a day less than the output during the first week in January of this year. This, too, in spite of the fact all restrictions tending to curtail operations in different fields have been lifted; that prices for crude in every section of the country have been increased substantially, in some instances almost doubled; and that new development work has shown a steady and constant increase in nearly every promising section.

No Big Production in Sight

While there are several promising looking territories in different sections of the United States at this time, nothing has developed thus far which warrants the belief a new field with a large production may be expected to result in the near future from operations now being conducted in these sections. There is considerable activity in counties northeast of the Powell Field in Texas; operators in California are becoming more interested in two areas in that State which are regarded as most promising—El Segundo and Bandini; Moffat County in Colorado, where The Texas Company and the Transcontinental Oil Company recently brought in a good well near Craig, is certain to be the scene of much new work; and extensions to producing areas in the North and Central Texas area are expected, but none of these areas at this time gives promise of being a second Powell. Even a second Powell would not go very far in providing the additional crude which the industry will need during 1924 to meet the requirements. Several fields with a production equal to that made by Powell during 1923—30,000,000 barrels—will be needed this year to offset the natural decline which may be expected in the various fields and to provide for the increased consumption.

Big Fields About Stationary

The main producing areas of the United States showed little change in output during the past week. When the recent gusher completions from the deep sand in the Hewitt Field in Oklahoma stopped flowing last week, the production of that field slumped with the result the daily average for the week showed a decline of more than 7,000 barrels. Burbank failed to show the large gain which has characterized that field since the shutdown agreement was abrogated and production there, it is believed, will soon reach its maximum from the present producing area. It probably will show a gain later in the year when wells are completed in the territory to be leased at the Government's sale of Osage leases next month. The average output for Oklahoma during the week was practically the same as for the week before.

California showed a decrease of 5,000 barrels daily in the average production for the week, Santa Fe Springs dropping to 119,000 barrels a day, a decline of 6,000 barrels, while the smaller and older pools of the State recorded an increase of 3,000 barrels daily. Completions at Torrance failed to offset natural declines there and the average for the field registered a decline of 3,500 barrels daily.

The same conditions obtained in other large fields of the country. North Texas was able to just about hold its own despite the fact there has been considerable activity in all sections of that area. Operators have about decided the initial output of completions is barely enough to offset declines in the older wells, even though a number of good producers have been finished during the past few weeks.

PRODUCTION IN THE UNITED STATES

Estimated daily average production in the oil fields of the United States for the week ended February 9, and a comparison with the previous week follows:

Fields:	Feb. 9	Feb. 2
Oklahoma—Northern Fields:		
Tonkawa	37,480	38,750
Burbank	104,975	100,100
Other Osage Fields	30,890	31,780
Cushing and Shamrock	23,875	24,075
Bristow and Eastern Bristow	45,370	45,125
Northern Miscellaneous	91,350	89,540
Southern Fields:		
Healdton	16,920	16,950
Hewitt	26,375	33,475
Southern Miscellaneous	29,450	27,050
Total Oklahoma	406,685	406,845
Northern Louisiana	52,990	53,875
Arkansas—		
El Dorado and Calion	14,940	15,310
Smackover Light	23,640	22,420
Smackover Heavy	72,515	71,620
Stephens	2,790	2,895
Total Arkansas	113,885	112,245
North Central Texas	111,080	110,425
East Central Texas (Mexia, Currie, Corsicana, Powell)	140,750	136,875
Kansas	71,100	71,475
Total Mid-Continent Area	896,490	891,740
Gulf Coast	96,515	92,150
Eastern	107,450	108,025
Wyoming-Montana	150,210	150,470
California—		
Santa Fe Springs	119,000	125,000
Long Beach	230,000	229,000
Huntington Beach	62,000	63,000
Torrance	31,500	35,500
Remainder State	232,000	229,000
Total California	674,500	679,500
Total United States	1,925,165	1,921,885

Increase, 3,280 Barrels

Compton Again Scene of Activity

A significant announcement was made during the past week by the Union Oil Company when it said it would establish a field office immediately in the Compton Field in California. Coincident with this announcement, the company began preparations to start two new wells in the field and cemented casing in its No. 1 Rosecrans at 3,924 feet. This well is more than two miles northwest of the discovery well, No. 1 Callender, and if commercial production is procured, it may mean another orgy of townlot drilling. There is only 100 feet difference between the depth at which No. 1 Rosecrans was cemented and the depth of the discovery well.

Operators in California believe this year will be more prosperous for them than 1923 when the State produced the greatest amount of crude in its history. They feel higher prices being paid for crude will offset the decline in output. The recent announcement of the Standard Oil Company of California that the higher prices being paid for crude resulted from the economic law of supply and demand is affirmed by practically all other large operators and it is believed a majority of the companies will be drawing upon their stocks of crude a large part of this year.

Higher Crude Prices Most Probable

While substantial increases in the posted prices for crude have been made in every field of the country since the first of the year, it is believed further material advances will be made. It is reasonable to expect that with a demand greater than the production and with companies drawing upon their stocks to meet requirements, higher prices will prevail and this situation certainly will obtain within the very near future unless production registers a decided advance. The height to which crude prices will go this year naturally depends upon production and consumption. At this time, as said before, there is nothing in sight to warrant the belief production will show any great increase, while there is every indication consumption will establish a new high record during 1924.

Higher prices for crude naturally mean higher prices for gasoline and even now there is arising in different sections of the country an agitation against advancing gasoline prices. These higher prices are inevitable under present conditions. If these facts are placed squarely before the public, which cannot help but understand the law of supply and demand, politicians and others fathering these agitations would be forced to turn to some other field for their investigating efforts.

It behooves every producer and distributor of crude petroleum and its products at this time to inform himself thoroughly as to the facts pertaining to production, consumption and stocks of crude so that he may be in a position to answer the blatant ravings of demagogues and grandstand politicians, who know nothing about the oil business. Every person connected with the industry should be prepared to defend it against attacks which might postpone the period of prosperity which is assured.

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Upward Market Trend Suffers Setback

Slow Up in Demand Brings Lower Prices in Group 3. Large Buyers Watching Developments. Neutrals Advanced

By C. O. Willson

With the minimum demand of several months for gasolines and with less activity in several other products, the Group 3 refined market during the past week experienced its first real setback since the upward price trend started early in December. Straight run, blended and natural gasolines during the week slumped from ½ to 1¼ cents with no positive indication at this writing that the bottom has been reached. Fuel and gas oils and most grades of kerosene also joined in the downward price tendency with no price advances on any products except neutrals.

The advance in gasoline prices of a week ago following the latest increase in Mid-Continent crudes and the Standard of Indiana tank wagon prices was short lived. Refiners, following the Indiana tank wagon advance of February 5, immediately marked up their gasoline prices on all grades. However, by Thursday of last week it was apparent that these changes could not be maintained and before the end of the week there was a general decline and early this week the sellers had lost all the ground they had gained the previous week.

The reason generally advanced for this situation lies in the unfavorable weather in the States of the Middle West. This cold and stormy wave broke just as the crude and tank wagon advances previously mentioned occurred. There was considerable doubt in the minds of most refiners as to whether they would be able to advance their gasoline prices due to this situation but they felt compelled to do so because of the higher crude costs. The weather improved the latter part of the week in some sections but reports from practically all sections of the Middle West the fore part of this week indicated that motor travel was still conspicuous by its absence.

Storage Full

These same reports show that jobbers generally have their storage full. The consumption has been light for the past three weeks. Jobbers who have marginal contracts covering part of their yearly requirements have been receiving more gasoline on these contracts than they have been able to sell, from refiners who are also in several cases crowded for storage facilities and keep their marginal shipments moving ahead of the contract requirements.

This situation means that the jobbers have not been forced to buy gasoline in excess of their marginal contract shipments and the open market in Group 3 is exceedingly quiet as a consequence. The unfavorable weather unquestionably has been the prime factor in bringing about the gasoline market depression. However, even if the weather conditions had been as favorable as expected at this season of the year, it is doubtful if the domestic demand from jobbers would have been sufficient to have maintained an advancing or even firm market. Too much crude has been run through the stills of Mid-Continent refiners for several months and the gradually accumulating gasoline stocks have now reached the point where a certain fraction of the total can be labeled "distress."

The storage facilities of several plants are full and at least two cases are known where refiners have as an emergency measure been forced to store their gasoline in tank cars. This situation in the past has always brought lower prices. A majority of the larger refiners in Group 3 still have empty storage and if their situation was general there would not have been a price decline, and in fact, prices would have been advanced in line with present crude costs and the retail markets. However, there are at least two or three of the larger plants which are now in the same position as several concerns and admit they have a considerable quantity which they would like to move immediately.

Figuring the Future

Just what will be the future trend will depend on the attitude of the buyers during the 10 days or two weeks. The refiners may curtail their refinery operations or shut down entirely, although past experience does not give much cause for hope as to that development. This action would come too late to aid in the present emergency in any event as a considerable quantity of gasoline must be moved at once to prevent a further price decline.

Most market observers believe that this needed large purchase will materialize within a few days. Since the first of the week it is known that at least three buyers are in the market.

Two of these prospective purchases are for quantities around 100 cars each with both New Navy and 64-66, 375 needed. The third purchase would be for a larger amount. These buyers are understood to be seeking New Navy under 11 cents and 64-66, 375 under 13 cents. Present quotations are above these figures. However, it is encouraging to the sellers that important buyers are keeping in touch with market developments with little doubt that important purchases will be made as soon as they are satisfied that the bottom in the price situation has been reached.

It is known that in January when prices were rapidly advancing that several important buyers attempted to get in the market with purchases which if they materialize now will more than take all the slack out of today's market throughout the Mid-Continent Field. These buyers did not purchase in January because prices advanced so fast that they were never able to catch up with the sellers. Some are known to have predicted the present slump and postponed their purchases in anticipation of it.

Seek Normal Relationship

These particular buyers so far as known are not yet actively endeavoring to cover their requirements but it is notable that they will be. As has been stated in these columns previously, there is a general feeling within the refining and marketing fraternity that those responsible will see to it that a normal relationship between crude, refinery and retail prices will be maintained. The present gasoline market in the Mid-Continent threatens the entire crude and retail market structure which has been brought to the present levels through steady advances during the past two months. If New Navy gasoline declines to around 10 cents it is conceded that the Standard of Indiana company would probably deem it advisable to reduce its tank wagon prices so recently established. In any event it would leave such a wide margin between the refinery and tank wagon prices that the troubles of the past year which the entire industry is anxious to avoid would be repeated.

In this connection it is generally agreed that the crude advances of the past two months, brought about by important declines in crude production, together with an assured record consumption for the coming year, is sound. If such is the case students of market conditions have pointed out it would appear that prices on refined products should maintain a price relationship in line with the advancing crude costs. It is reasonable to assume that if the major interest of the oil industry feel that crude is worth more than it was a few weeks ago, that it would feel the same toward gasoline, its most important product. Applying this reasoning to the present market situation in Group 3, it would mean that when gasoline drops to the point out of line with the cost of production, based not only on the present posted price of crude but the higher prices which will probably prevail within the next few weeks, these major buyers would make substantial purchases.

A Normal Development

This is a normal development. It is true that these large export and domestic buyers did not come to the rescue of the Mid-Continent refiners last year as they have in previous years. They did not, because, directly or indirectly, they were able to obtain a cheaper supply from the California area. Then California crude prices dropped rather than advanced along with the fields east of the Rocky Mountains. This year, in contrast, the advance there has been in line with the crude changes in other fields with a declining production under control.

This does not mean that these purchases are going to be large enough to create a scarcity at this time. Both buyers and sellers are agreed that gasoline movement until the first fo April will probably not support any large advances in gasoline prices at the refinery regardless of large purchases or crude advances but at the same time it seems certain that the situation will not be repeated and that gasoline prices in Group 3 based on present crude costs are near bottom.

Crude Situation

The present crude situation is best indicated in the action of the Wait Phillips Co., a major producing and refining concern of Oklahoma which today (Wednesday) announced a new scale of posted prices which are from 5 to 25 cents higher than those posted by the major purchasing companies with the exception of the 30° to 32.9° gravity which is unchanged. The advance applies to the Okmulgee, Slick, Beggs and Bristow districts and applies to approximately 6,000 barrels of crude which the company is purchasing for its Okmulgee refinery. It is known that this company has been losing important crude connec-

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REFINED MARKET BAROMETER

With no important changes in crude oil prices for the first time in two months and with only scattered advances in the gasoline and kerosene tank wagon markets, the past week in the refined markets throughout the United States saw prices either firm or declining. In the Middle West due to pronounced slump in demand, prices are generally lower with no changes in other sections. Gasoline movement was fair in the East but the slowest of the winter months in the Middle West and lower prices resulted in the refining areas supplying the latter area. The demand for kerosene was fair but refiners were unable to maintain recent advances in some sections. The demand and prices for fuel and gas oils were unchanged except at several points in the Mid-Continent where prices dropped from 5 to 15 cents. Distillates unchanged. Natural gasolines weak and prices generally lower.

Mid-Continent—Slow week in all areas. Prices are lower where there are any changes with the largest and most general reduction centering in Group 3. Few new inquiries for gasolines and shipments during past week were practically confined to old orders or the usual contract movement. The largest gasoline price drop was in Group 3 and Kansas with North Louisiana fairly firm. Fuel oil prices slumped in all areas except North Louisiana and Arkansas where prices were unchanged. Strong demand for Smackover fuel oils. More kerosene available with lower prices on several large orders. Comparatively few inquiries for natural gasolines and prices slumped from ¼ to 1 cent. Distillates unchanged.

Pennsylvania—Practically no price changes with a generally fair movement. Filtered grades not as strong as other grades with present price difference not sufficient to pay filtering costs. Tank wagon advance in Pennsylvania and Delaware aids gasoline prices at the refineries. Fair movement of both gasolines and kerosenes.

Atlantic Seaboard—Prices generally firm. Further advances not expected until higher crude prices again materialize, with the exception of bunker oil where an additional advance of 15 cents is expected. Gasoline movement fair with brisk export trade in several products.

Chicago—Bad weather reflected in a minimum demand for gasolines of all grades. Tanks of jobbers full and it will require several days of favorable motoring weathering before they will again be in the market for immediate shipments. Burner oil situation comparatively strong and expected to continue so for 30 to 60 days when the season of maximum consumption will be over. Kerosene slightly weaker. Strong demand for Smackover crude. Neutrals higher.

Gulf Coast—Finished oils strong with no price changes. Refiners have had the best winter season of their history so far as movement is concerned. Lighter viscosities expected to move in small quantities over remainder of month. Many inquiries for summer oils. Keen competition for Gulf Coast crudes with higher premiums being offered.

REDUCED FARES FOR W. P. R. A. SESSION

The Western Petroleum Refiners Association has made arrangements for reduced fares on the certificate plan from all points in Western, Southwestern and Transcontinental passenger territories for the annual convention which will be held at Dallas March 4 to 6, inclusive. The final honoring date from Dallas will be made March 9. The association is also endeavoring to arrange special service from St. Louis, Chicago, Kansas City and Tulsa. It is planned to pick up special cars at these points with a solid train leaving Tulsa on the morning of March 3.

Oil Industry Facing Bitterest Battle

Senate Investigation Inflames Public Mind, Stampeding Congress. La Follette Preparing Regulatory Bill

By L. M. Fanning

NEW YORK, Feb. 11.—Naval oil reserve disclosures and developments constitute the greatest blow ever dealt our National Government and industrial order. Any effort to minimize the seriousness of the situation must ignore oil volcanoes in eruption, political earthquakes actually occurring, and the crashing down of careers built high in the industrial and political world. It must be blind to the confusion of political parties threatened with extinction. Careful, conservative observers agree that representative government is on trial.

Out of the present confusion one thing is certain. Legislation providing some sort of Federal regulation of the oil industry will be passed by the present Congress.

This conclusion is advanced not to brand as futile any intelligent effort to forestall such an eventuality, but as an obvious deduction—obvious at the time of writing—based upon actual occurrences to date.

It is well to reiterate that the seriousness of the so-called Teapot Dome disclosures cannot well be overestimated.

While the oil industry might be said to be particularly affected, the eruptive political and economic aspects place it, with business generally, facing certain pronounced uncertainties related to the next Presidential election.

With specific reference to probable oil legislation are the following facts:

Senator La Follette, whose subcommittee of the Senate Committee on Manufactures conducted the investigation into the "high cost of gasoline and other petroleum products" last year and made certain recommendations for Federal supervision, is now working on an oil bill.

He will conduct a further investigation of the industry, taking up developments since the last inquiry. Beyond a doubt this investigation will be in the hands of the Committee on Manufactures, of which Senator La Follette is chairman.

Discussing in the Senate on January 21 his resolution for the printing of 1,000 additional copies of last year's hearings and in answer to an inquiry by Senator Robinson of Arkansas as to the spread in specified oil prices, Senator La Follette said:

> I would not detain the Senate a moment at this time for a further discussion of the oil problem and of the proper regulation of it. I will say, however, that the investigation which was conducted by the Committee on Manufactures under a resolution introduced by the Senator from Tennessee (Mr. McKellar) was, if I may say so, a very thoroughgoing investigation and elicited a vast amount of very valuable information. It was very comprehensive and thorough in character. I hope to be able within a brief period to introduce a bill concerning the whole subject which I trust will be made the subject of further investigation eliciting important facts that have transpired since the preceding investigation and which will meet just such a situation as the Senator from Arkansas has referred to.

Bearing on the probable reception of an oil bill are the following factors:

The public mind;

Political expediency.

It is enough to say that the public has formed its opinion, no matter how erroneous that opinion may or may not be. Expediency will produce no oil industry champions in the halls of Congress, but will effect, if it has not already effected, a grotesquely antagonistic alignment.

Proposed legislation which hitherto would be impossible of serious consideration will be vigorously supported because of the fear of legislators to act otherwise. The situation is without precedent, and the merits of proposed legislation is a matter beside the point.

Just what form Senator La Follette's bill will take is not exactly known. If it follows the ideas of the sub-committee of the Committee on Manufactures, it will probably provide:

The vesting in some existing government commission, or in some government body to be formed, of regulatory powers over companies engaged in interstate commerce, with a scope of supervision broadly defined to cover anything relating to the conservation of petroleum resources. Specified bookkeeping methods and reports of operations will doubtless be required.

Further regulation of pipe lines as common carriers and possibly legislation restricting exports of petroleum will be proposed.

As a practical proposition, government control, such as above outlined, has its difficulties, difficulties which even as biased an authority on the oil industry as the author of the forthcoming oil bill must recognize. Taking it over any of its period of operation, politically it can be a boomerang. It is likely, however, that radical provisions will be contained in the bill as originally introduced, due to the unusual opportunity for Senator La Follette to make effective political capital out of the measure.

It is not necessary to go into any discussion of the national political situation, except to point out that:

A third party is considered by observers as anything but a remote possibility. Some believe the next President will be chosen by the Legislature—no candidate having received the necessary majority in the electoral college.

Teapot Dome in its whole significance makes the Ballinger incident look trivial. Demagogues are being furnished weapons, where formerly they could only pound their fists, and their number will doubtless be multiplied.

A battle is waging to determine whether modern industrialism and capitalism, which have eased the conditions of life of the whole populace, and representative and party government can both be carried on successfully together.

Prairie Lays Oil Case Before President

By Charles E. Kern

WASHINGTON, D. C., Feb. 9.—Upon recommendation of President Coolidge, the Department of Justice has extended its investigation of the oil industry to cover increases in the price of gasoline throughout the country.

Former Representative J. J. Campbell, attorney for the Prairie Oil & Gas Co., called upon the President and presented to him a brief statement concerning conditions operating to bring the prices of petroleum and its products to normal price levels.

Referring to the causes for the fall and rise in the prices of crude oil and gasoline within the past year, Mr. Campbell told the President:

"Early in 1923, new oil pools producing unusually large quantities of crude oil were discovered in California, Texas, and Arkansas. This production flooded the market far beyond the normal capacity of those engaged in the industry to handle the production. This large production in the crude product was soon reflected in the downward price of crude oil and of gasoline, and was seized upon at the psychological moment by the Governor of South Dakota as a reason for reducing the price of gasoline in that State. The action he took last summer was based upon the constantly increasing production of crude oil, and at the same time, the reduction in its prices. The price of gasoline was lowered throughout the country during that time because the production and consumption of the oil industry caused it. Within recent months, the flush fields in California, Texas, and Arkansas have ceased to produce the large quantities of oil that over supplied the market a few months ago, and the falling off in the quantity of production has caused, and is now causing the rapid rise in the price of crude oil throughout the country.

"The price of crude oil to the refiners is naturally reflected in the price of gasoline to the consumers. The upward tendency now is as natural as the downward tendency was last summer. Both reflect the quantity of production and the price of crude oil, the product from which gasoline is made. The law that justified Governor McMaster in making his demand for a lower price for gasoline last summer would justify him now in demanding a higher price for the same product. The economic law that operated last summer is operating now.

"Those facts can be substantiated by producers and refiners engaged in the oil industry from one side of the country to the other. R. L. Welch, secretary of the American Petroleum Institute, 15 West Forty-fourth Street, New York City, will be able to verify this general statement by giving the relative quantities of crude oil produced and gasoline consumed during the period of downward prices last summer and at this time when the prices are going upward, showing that there is no profiteering connected with the trend of present prices. These facts will be verified also by Mr. Frank B. Fretter, president of the National Refining Co., with refineries in Coffeyville, Kans.; E. W. Marland, president of Marland Oil Co., Ponca City, Okla.; J. S. Cosden, of the Cosden Oil & Refining Co., Tulsa, Okla.; W. S. Fitzpatrick, chairman of the board, Prairie Oil & Gas Co., Independence, Kans.; R. W. Stewart, chairman of the board, Standard Oil Co. of Indiana, Chicago, Ill.; and A. C. Bedford, chairman of the board, Standard Oil Co. of New Jersey, 26 Broadway, New York City; or anyone familiar with the oil business who is engaged in it as a producer or refiner, either in a large or small way."

The action of the President in calling upon the Department of Justice to pursue this investigation was brought about by a telegram from Governor McMaster of South Dakota, claiming that allied interests of the Standard Oil had cornered the crude oil supply and are now enhancing the prices of gasoline. It has long been known that the Department has been investigating charges made by Senator La Follette that the decree of the United States Supreme Court dissolving the Standard Oil Co. into 34 independent companies, is being violated. The present investigation into the gasoline price increase will be in line with what has been done by the Department. Attorney General Daugherty is returning from Florida to this city for the purpose, it is said, of speeding up this oil investigation.

Governor Bryan of Nebraska sent a telegram of similar tenor to that of Governor McMaster, who declared in his message to the President that South Dakota had "performed its duty in preventing excess profits in the distribution business," and called upon the Federal Government to check excess profits in the refining of gasoline.

The Department of Justice says it is prepared to study both phases of the industry, and the federal trade commission, which also was directed today by the president to inquire into the situation, is considering its course in the matter. The commission already has much data bearing upon the question involved, and a review of that will be made to determine its future course.

Research Work Will Be Given Impetus

Something Definite Expected Next Month From Plans Being Considered Affecting Important Problems of Oil Industry

By L. M. Fanning

Plans are now being formulated for the promotion of oil industry research along comprehensive lines. While it is too early for any formal announcement, it is expected that early in March something of a definite character will be available. The initial step is to be the working out of a schedule of suggested topics of research, the adoption of concrete suggestions as to how, where and by whom the different investigations will be conducted, and proposals of financing.

Those active in the movement point out that the plan embraces a program for research on fundamental problems of all character related to the industry which individual companies are not justified in undertaking.

Through the American Petroleum Institute the industry is now engaging in a considerable amount of research work. This is largely cooperative work with the Government bureaus.

Little Spent So Far

Taking all investigations to date, the industry has probably expended for them directly not more than, and possibly less than, $25,000. These investigations include the following cooperative activities:

Cooperation with the United States Bureau of Standards, Society of Automotive Engineers and National Automobile Chamber of Commerce on the motor fuel research problem; with the United States Bureau of Mines on the toxicity of gases from oils with a high sulphur content, and with the United States Government and other agencies in determining the causes and remedies of the pollution of navigable waters in the United States.

Under the present method of research it is necessary to raise funds for each research enterprise, if funds are required; while a system of financing a properly organized body for general research would make the money available without any appeal necessary for specific projects, with all that involves in the nature of uncertainty.

Research Activities

Other important activities of the Division of Research of the Institute are the following: Cooperation with the United States Interdepartmental Petroleum Specifications Committee on specifications and methods of tests; cooperation with the American Society of Testing Materials on methods of tests; cooperation with the National Board of Fire Underwriters and the National Fire Protection Association on fire prevention and protection of life and property; cooperation with the United States Bureau of Standards in the development of viscosity standards; cooperation with the Society of Automotive Engineers in lubricating oil specifications; cooperation with the United States Bureau of Standards in the adoption of the A. P. I. hydrometer scale; cooperation with the United States Bureau of Mines and the Society of Automotive Engineers in investigating the causes of corrosion from blended fuels, and cooperation with the Bureau of Standards, American Institute of Electrical Engineers and American Engineering Standards Committee in the development of a code for lightning protection.

It is recognized that the field of general oil industry research has scarcely been scratched. However, one of the difficulties in interesting the industry in financing research is that the companies are expending large sums in their own laboratories on technical investigation. This specific company work is a valuable contribution to oil industry technology but on the other hand there are problems of vital relation to the industry which, because of their general nature and extensive research requirements, cannot be attempted by individual companies. Moreover, they have as direct a bearing, and often a more vitally potential bearing, on efficient operation. Problems of this nature come under the scope of general reesarch organization. Furthermore, centralized research will save the companies millions of dollars in research work now being duplicated.

No Pronounced Opposition

While it cannot be said that the matter of general research is creating lively competitive scramble on the part of the industry to finance it, there is no pronounced sentiment of opposition. If there can be a research program worked out which will give the companies assurance that it is not merely a duplication of work now being done, many executives will be inclined to favor it and the industry will probably contribute financially to it.

There is still a disposition to take a very conservative view of industry research and encourage large outlays for special investigation. With this latter condition apparent, there is every reason why general research should be conducted through an organization existing or formed for the purpose, which would have the confidence of its financial backers in its selection and outlay for research activities.

A National Petroleum Institute of Research, as proposed by The Oil and Gas Journal, financed by the industry, would be the logical plan. Such an organization would be a logical growth of the research work of the American Petroleum Institute. Involving a distinct problem of financing, it could be financed separately. If desired, however, it could be financed through the Institute.

Reviewing the work already done along research lines one of the most important is the joint motor fuel investigation of the United States Bureau of Standards, Society of Automotive Engineers, National Automobile Chamber of Commerce and American Petroleum Institute. The oil and automotive industries both have contributed about $11,000 for the tests being made by the Bureau of Standards. An explosion September 20, 1923, occurred in the altitude laboratory of the bureau during the course of one of the motor fuel experiments and resulted in loss of life and considerable property damage. The two industries made up a fund of $10.000 for the families of the victims of the disaster. As evidencing the uncertainty as to the cost of research work, this investigation has cost the Government, figuring in salaries of the personnel of the Bureau of Standards engaged in the investigation, and explosion damages, about $115,000.

Need of Cooperation

The two great industries—oil and automotive—with so much interdependence advanced to places of commercial leadership without any apparent cooperation. Anyone familiar with the history of the cooperative motor fuel research work of the two industries understands, however, that the necessity of cooperation in the matters of fuel and of engine design was particularly urgent, and that the lack of any such activity threatened big losses to the industries, if it had not already caused great losses.

The importance may be gauged when it is considered that the disposal of a product representing 30 per cent in quantity and 50 per cent in value, of the barrel of crude is involved, and, from the automobile industry's angle, when it is considered that manufacturers must design engines and carburetors in such a manner as to make efficient use of the fuels available.

Under the circumstances, the importance of any cooperative movement between these two industries cannot be overestimated. Furthermore, this suggests the importance of cooperative research work between the oil industry and industries other than automotive.

While much has been written about the fuel tests made by the Bureau of Standards, little emphasis has been placed on the results in their bearing upon the oil industry's gasoline disposal. It will be remembered that the automotive industry seriously questioned the quality of much of the fuel being marketed. Engine and carburetor trouble were frequently explained by referring to inferior fuel. The question was of such importance to both industries that any independent investigation by either industry would not be satisfactory. By enlisting the aid of the Government and placing the actual test work in the hands of the Bureau of Standards it was possible to obtain results which could not be questioned.

Summer and winter tests were made by the Bureau of Standards. The results shown by the summer tests were extremely favorable to the petroleum industry. It was shown that the cars under average, everyday conditions could successfully use the heaviest fuel available in the tests. This fuel was much heavier than present-day commercial gasoline and represents a gain of approximately 28 per cent greater mileage per barrel of crude oil over the lighter fuel. In general the indications were that there was very little difference between the fuel under the temperature and weather conditions of the summer tests. These tests also indicated a greater rate of crankcase oil dilution with the less volatile fuels.

Small changes in carburetor adjustments affected the results. With a fixed adjustment, better economy was obtained with the less volatile fuels. When the carburetors were adjusted for each fuel, somewhat better economy was obtained with the more volatile fuels.

Carburetor Adjustment

Winter tests were deemed desirable to show particularly the effect of cold weather on fuel economy, starting and accelerating characteristics of the four fuels used the relative effect of these fuels on crankcase dilution and the effect of various carburetor adjustments.

The winter tests consisted of a short series of road tests, identical to those made during the summer, under mild winter conditions and of a more extended series of tests in the altitude laboratory where temperature conditions were under close control. As stated, the results of the road tests were in general agreement with the summer road tests. It was therefore decided to concentrate on laboratory tests where control and accuracy of measurement offered greater opportunity for studying the dominating factors.

The winter laboratory tests indicate that the difference in fuel volatility does not produce considerable difference in fuel consumption in existing types of automobile engines. Crankcase dilution was

(Continued on Page 124)

DEPLETION ALLOWANCE IN DANGER IF INDUSTRY FAILS TO PROTEST

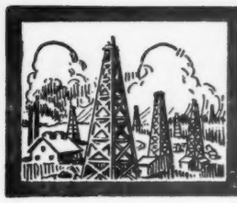
By C. E. Kern

WASHINGTON, D. C., Feb. 11.—Since warning was sent out to the oil producing industry that the Mellon tax bill provides for reducing by one-half the depletion allowance based on discovery value of oil wells in making tax returns, there have been many letters and telegrams received by senators and representatives from oil producers protesting against this change in the law as burdensome and unjust. Many men representing oil producing companies have been in Washington and have had personal interviews with their members of congress. But all such effort has been practically useless because there is no committee or person here who can speak with authority for the industry as a whole.

The fact is senators and representatives up to this time have hesitated to take any aggressive course for the reinstatement in the Mellon bill of the provision of the present law allowing 100 per cent depletion from capital account, based on discovery value because they fear hostile attacks on the industry may result in the elimination from the bill of even that 50 per cent depletion allowance, and, in the absence of substantial backing from the active producing interests, they see no change to marshal the oil producing industry in the support of any particular course of action. Unless the industry can be represented in Washington by some one with authority to act for it, it is not likely that a campaign can successfully be made to restore the full benefit of discovery value to the provisions of the Mellon bill.

Harry H. Smith, secretary of the Mid-Continent Oil and Gas Association, the Okmulgee Producers Association, the Cortez Oil Co., the Alvarado Oil Co., the Empire Oil Co. and Waite Phillips, among many others are showing an immense interest in the retention of the right to charge off depletion from discovery value but their efforts are being exerted without the force of organization. Friends of the industry in congress are without sufficient detailed information to show just how this change in the law adversely affected the oil producers. They are able to discuss it only in general terms while they should be strengthened in the fight if they are to make it with various facts showing up the way the producing industry is unjustly affected by this provision of the Mellon bill. Only some organized effort can provide the support that is needed.

The Mellon bill, having been reported from the committee on ways and means to the house, opportunity to amend the discovery value clause is practically impossible until the measure reaches the senate. If no better showing is made when the bill is in the Senate committee on finance than has been made up to this time it is not likely that the producing industry will obtain any concession on discovery value. It should be understood that unusual efforts must be made if anything is accomplished in this respect because the investigations into charges of corrupt practices in the drilling of the naval oil reserves is having a very unsavory influence against anything that any element of the oil industry advocates.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

CHICAGO DIST. (Based on Group 3)—	Feb. 12	Feb. 5	Jan. 29
50-52 450 end point (Naphtha)	.11 .11¼	.11¼ .11½	.10½ .11
56-58 450 end point	.11 .11¼	.11½ .11¾	.10¾ .11
58-60 437 end point (New Navy)	.11½ .11¾	.11¾ .12¼	.11 .11½
60-62 400 end point	.12½ .13	.13 .13¼	.12½ .12¾
64-66 375 end point	.13½ .14	.14 .14½	.13½ .13¾
68-70 360 end point	.14 .14½	.15 .15¼	.14¼ .14½
OKLAHOMA (Group 3)—			
50-52 450 end point (Naphtha)	.10¾ .11¼	.11½ .11¾	.10½ .11
56-58 450 end point	.11 .11¼	.11¾ .12¼	.11 .11¼
58-60 437 end point (New Navy)	.11¼ .11½	.12¼ .12½	.11¼ .11¾
60-62 400 end point	.12½ .12¾	.13¼ .13½	.12¼ .12½
64-66 375 end point	.13¼ .13¾	.14¼ .14½	.13¼ .13¾
68-70 350-365 end point	.14 .14½	.15¼ .15½	.14 .14¼
KANSAS—			
58-60 437 end point (New Navy)	.11½ .11¾	.12½ .12¾	.11½ .11¾
NORTH TEXAS—			
48-52 450 end point (Naphtha)	.10¾ .11	.11 .11½	.10½ .10¾
50-52 440 end point (Naphtha)	.10¾ .11¼	.11¼ .11¾	.10¾ .11
56-58 450 end point	.11 .11½	.11½ .11¾	.11 .11¼
58-60 437 end point (New Navy)	.11½ .11¾	.12 .12½	.11¼ .11¾
60-62 400 end point	.12½ .13	.13 .13½	.12¼ .12¾
64-66 390 end point	.13¼ .13¾	.14 .14¼	.13 .13¼
64-66 375 end point	.13½ .14	.14¼ .14½	.13¼ .13¾
NORTH LOUISIANA—			
56-58 450 end point	.11¼ .11½	.11½ .11¾	.11 .11¼
58-60 437 end point (New Navy)	.11¾ .12	.11¾ .12	.11½ .11¾
60-62 400 end point	.13 .13½	.13 .13½	.12½ .12¾
64-66 375 end point	.14½ .14¾	.14¼ .14½	.13¾ .14
64-66 390 end point	.14 .14¼	.14 .14¼	.13¼ .13½
ARKANSAS—			
58-60 450 end point	.11¾ .12	.12½ .12¾	.11¼ .11½
58-60 437 end point (New Navy)	.12 .12¼	.12¾ .13	.11½ .11¾
64-66 375 end point	.13¼ .13¾	.14 .14½	.13½ .14
ROCKY MOUNTAIN STATES—			
*58-60 437 end point (New Navy)	.14½ .14¾	.13½	.12½
PENNSYLVANIA—			
52 Naphtha	.13¾	.13¾	.13¾
54 Naphtha	.13⅞	.13⅞	.13⅞
56 Gasoline	.14	.14	.14
58 Gasoline	.15	.15	.14½
60 Gasoline	.15¾	.15¾	.15
62 Gasoline	.16½	.16½	.16
64 Gasoline	.17½	.17½	.17
66 Gasoline	.18½	.18½	.18¼
68-70 Gasoline	.19½	.19½	.18¾

*Colorado points.

NATURAL GASOLINE

CHICAGO DIST. (Based on Group 3)—	Feb. 12	Feb. 5	Jan. 29
Grade A, 72-78, under 375 e.p., rec. 90%	.11 .11½	.11 .11½	.10½ .11
Grade B, 76-82, 375 end point, rec. 85%	.10¼ .10¾	.10½ .10¾	.10 .10½
Grade C, 80-88, 350 end point, rec. 78%	.09¼ .09¾	.09½ .09¾	.09 .09¼
OKLAHOMA (Group 3)—			
Grade A, 72-78, under 375 e.p., rec. 90%	.11 .11¼	.11½ .11¾	.10½ .11
Grade B, 76-82, 375 end point, rec. 85%	.09¾ .10¼	.10¾ .11¼	.09¾ .10¼
Grade C, 80-88, 350 end point, rec. 78%	.09 .09¼	.09¾ .10¼	.09 .09¼
Grade D, 88-92, 350 end point	.08¾ .09	.09¾ .10¼	.08¾ .09¼
NORTH TEXAS—			
Grade A, 72-78, under 375 e.p., rec. 90%	.11 .11¼	.11¼ .11½	.10¼ .10¾
Grade B, 76-82,375 end point, rec. 85%	.10¼ .10½	.10½ .10¾	.09½ .10
Grade C, 80-88, 350 end point, rec. 78%	.09 .09½	.09½ .09¾	.08½ .08¾
NORTH LOUISIANA—			
Grade B, 72-78, under 375 e.p., rec. 90%	.10¼ .10½	.10¼ .10½	.10 .10½
Grade C, 76-82, 375 end point, rec. 85%	.09 .09½	.09¼ .09½	.09 .09¼

MOTOR NATURAL GASOLINE (BLEND)

CHICAGO DIST. (Based on Group 3)—	Feb. 12	Feb. 5	Jan. 29
58-62 437 end point	.10½ .11	.11 .11¼	.10½ .10¾
60-62 450 end point	.10½ .11	.11 .11¼	.10½ .10¾
64-66 450 end point	.10½ .11	.11 .11¼	.10½ .10¾
OKLAHOMA (Group 3)—			
60-62 450 end point	.10¾ .11	.11½ .11¾	.10½ .11
64-66 437 end point	.10¾ .11¼	.11½ .11¾	.10½ .11
68-70 430-435 end point	.10¾ .11	.11¼ .11½	.10½ .11
NORTH TEXAS—			
58-62 440 end point	.11 .11¼	.11¼ .11½	.10¾ .11
58-60 450 end point	.11 .11¼	.11¼ .11½	.10¾ .11
PENNSYLVANIA—			
*60-62	.15	.15	.14½
*64-66	.15	.15	.14½
*66-68	.15	.15	.14½
*68-70	.15	.15	.14½

*At Sistersville, W. Va.

BURNING OIL

CHICAGO DIST. (Based on Group 3)—	Feb. 12	Feb. 5	Jan. 29
41-43 water white Kerosene	.05¾ .06¼	.05¾ .06¼	.05¾ .06
42-44 water white Kerosene	.06 .06¼	.06 .06¼	.06 .06¼
OKLAHOMA (Group 3)—			
41-43 water white Kerosene	.05¾ .06	.06 .06¼	.05¾ .06
42-43 water white Kerosene	.06 .06¼	.06¼ .06½	.05¾ .06¼
41-43 prime white Kerosene	.05¼ .05½	.05½ .05¾	.05¼ .05½
KANSAS—			
41-43 water white Kerosene	.06½ .06¾	.06½ .06¾	.05¾ .06¼
NORTH TEXAS—			
41-43 water white Kerosene	.06 .06½	.06¼ .06½	.05¾ .06
41-43 prime white Kerosene	.05½ .05¾	.05¾ .06	.05¼ .05½
40-42 prime white Kerosene	.05¼ .05½	.05½ .05¾	.05¼ .05½
42-44 water white Kerosene	.06¼ .06½	.06½ .06¾	.06 .06¼
NORTH LOUISIANA—			
41-43 prime white Kerosene	.06 .06¼	.05¾ .06	.05½ .05¾
42-44 water white Kerosene	.06¼ .06½	.06 .06¼	.05¾ .06¼
ARKANSAS—			
41-43 water white Kerosene	.06¼ .06½	.06¼ .06½	.05¾ .06
42-44 water white Kerosene	.06½ .06¾	.06½ .06¾	.06 .06¼
ROCKY MOUNTAIN STATES—			
*40-42 water white Kerosene	.09¼	.08¾	.08
PENNSYLVANIA—			
43 Kerosene prime white	.07⅛	.07⅞	.07¾
45 Kerosene water white	.08	.08	.07⅞
46 Kerosene water white	.08¾	.08¾	.08¼
47 Kerosene water white	.09½	.09½	.09¼
36 Miners' Neutral	.09	.09	.08¾
300 Mineral Seal	.09	.09	.09

*Colorado points.

FUEL OILS

CHICAGO DIST. (Based on Group 3)—	Feb. 12	Feb. 5	Jan. 29
24-26 Fuel Oil (sellers' cars, Group 3)	1.20 1.25	1.20 1.25	1.10 1.20
22-24 (El Dorado)	1.05 1.10	1.00 1.05	1.00 1.05
18-20 (Smackover)	.95 1.00	.95 1.00	.95 1.00
32-36 Gas Oil	.03¾ .04	.03⅜ .03⅝	.03¼ .03½
38-40 Straw distillate	.04¼ .04½	.04¼ .04½	.04¼ .04½
KANSAS—			
24-26 Fuel Oil	1.20 1.30	1.30 1.35	1.20 1.30
32-36 Gas Oil	.03¼ .03⅞	.03¾ .04	.03¼ .03¾
38-40 Distillate	.04¼ .04½	.04¼ .04½	.04 .04½
OKLAHOMA (Group 3)—			
24-26 Fuel Oil (buyers' cars)	1.15 1.20	1.20 1.25	1.10 1.15
24-26 Fuel Oil (sellers' cars)	1.17½1.25	1.25 1.30	1.15 1.20
28-30 Fuel Oil (sellers' cars)	1.25 1.30	1.30 1.35	1.25 1.30
32-36 Gas Oil	.03½ .03¾	.03¾ .03⅞	.03⅜ .03⅝
38-40 Straw distillate	.04¼ .04½	.04¼ .04½	.04 .04¼
NORTH TEXAS—			
24-26 Fuel Oil	1.20 1.25	1.25 1.30	1.20 1.25
26-30 Fuel Oil	1.25 1.30	1.30 1.35	1.25 1.30
32-36 Gas Oil	.03⅝ .03⅞	.03⅝ .03⅞	.03½ .03¾
36-38 Gas Oil	.03¾ .03⅞	.03¾ .04	.03⅝ .03⅞
38-40 Straw distillate	.04¼ .04½	.04¼ .04½	.04 .04¼
NORTH LOUISIANA—			
20-22 Fuel Oil	1.05 1.10	1.05 1.15	1.10 1.15
32-36 Gas Oil	.03½ .03⅝	.03½ .03⅝	.03¼ .03½
38-40 light Straw distillate	.04 .04¼	.04 .04¼	.04 .04¼
ARKANSAS—			
38-40 Distillate	.04 .04¼	.04 .04¼	.04 .04¼
32-36 Gas Oil	.03¾ .04	.03¾ .04	.03¾ .04
22-26 Refinery Fuel Oil	1.05 1.10	1.10 1.15	1.05 1.10
GULF COAST (South Texas)—			
Gas Oil	.04½ .05	.04½ .05	.04¼ .05
Fuel Oil	1.60 1.75	1.60 1.75	1.60 1.75
PENNSYLVANIA—			
30-34 Fuel Oil	.05½	.05½	.05¼
36-40 Fuel Oil	.06	.06	.06
34 Neutral	.10	.10	.09¾

NEUTRAL OILS

CHICAGO DIST. (Based on Group 3)—	Feb. 12	Feb. 5	Jan. 29
Pale Neutrals:			
70-80 vis., 2½ color, 20-25 cold test	.04¼ .04½	.04¼ .04½	.04¼ .04½
100 vis., 2 color, 20-25 cold test	.06 .06½	.06 .06½	.06 .06½
100 vis., 3 color, 20-25 cold test	.05½ .06	.05½ .06	.05½ .06
150 vis., 3 color, 20-25 cold test	.12½ .13	.11½ .12	.11½ .12
150 vis., 4 color, 20-25 cold test	.12 .12½	.11 .11½	.11 .11½
180 vis., 4 color, 23-28 cold test	.14¼ .14¾	.13¼ .13¾	.13¼ .13¾
180 vis., 3 color, 23-28 cold test	.15 .15½	.13 .13½	.13 .13½
200 vis., 3 color, 23-28 cold test	.16 .16½	.15 .15½	.15 .15½
200 vis., 4 color, 23-28 cold test	.15¼ .15¾	.14¼ .14¾	.14¼ .14¾
200 vis., 3 color, 25-30 cold test	.16 .16½	.15 .15½	.15 .15½
220 vis., 4 color, 25-30 cold test	.16¼ .16¾	.15¼ .15¾	.15¼ .15¾
240 vis., 3 color, 25-30 cold test	.18 .18½	.17 .17½	.17 .17½
240 vis., 4 color, 25-30 cold test	.17¼ .17¾	.16¼ .16¾	.16¼ .16¾
280 vis., 3 color, 25-30 cold test	.20 .21	.19 .20	.19 .20
280 vis., 4 color, 25-30 cold test	.19 .20	.18½ .19	.18½ .19
Red Neutrals:			
180 vis., 5 color, 23-28 cold test	.13½ .14	.11½ .12	.11½ .12
180 vis., 6 color, 23-28 cold test	.12¾ .13¼	.10¾ .11¼	.10¾ .11¼
200 vis., 5 color, 23-28 cold test	.14½ .15	.12½ .13	.12½ .13
200 vis., 6 color, 23-28 cold test	.13¼ .14¼	.11¾ .12¼	.11¾ .12¼
220 vis., 5 color, 25-30 cold test	.15 .16	.13½ .14	.13½ .14
220 vis., 6 color, 25-30 cold test	.14¾ .15¼	.12¾ .13¼	.12¾ .13¼
240 vis., 5 color, 25-30 cold test	.16 .17	.14½ .15	.14½ .15
240 vis., 6 color, 25-30 cold test	.15¾ .16¼	.13¾ .14¼	.13¾ .14¼
280 vis., 5 color, 25-30 cold test	.18 .19	.17½ .18	.17½ .18
150-160 vis., 1 color, 40-50 cold test	.07½ .08	.06½ .07	.06½ .07
190-200 dark green, 40-50 cold test	.06¼ .06¾	.05¼ .05¾	.05¼ .05¾
600 steam refined	.16¼ .16½	.16 .16½	.16 .16½
590-600 Bright Stock	.28 .29	.27 .28	.27 .28
600-610 Bright Stock	.32 .34	.31 .33	.31 .33
Waxes:			
124-126 White Crude Scale Wax	.04 .04¼	.03¾ .04	.03¾ .04

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

PENNSYLVANIA—	Feb. 12	Feb. 5	Jan. 29
150, 3 color	.30¼	.28¾	.28½
190, 3 color	.32½	.32	.31¼
200, 3 color	.34	.33	.32¾
220, 3 color	.36	.35	.35
600, steam refined	.21½	.21	.19½
635, steam refined	.23½	.23½	.21½
650, steam refined	.24½	.24	.23½
600, Pennsylvania flash	.27½	.27½	.27
630, Pennsylvania flash	.30½	.30½	.30½
*350, E filtered	.22½	.22½	.21
*600, E filtered	.24¼	.24¼	.24¼
600, E filtered	.24	.23½	.22½
600, D filtered	.31	.30½	.29
550, E filtered	.20	.20	.20
550, D filtered	.22	.22	.22
Pennsylvania Bright Stock	.38½	.38	.38
†122-124 White Crude Scale Wax	.04½	.04¼	.04¼
†122-124 White Crude Scale Wax	.04⅝	.04⅜	.04¾

*At Warren, Penn. †At New York City.

GULF COAST (South Texas)—						
Lubricating Stocks:						
Zero Black	.07½	.08	.07½	.08	.07½	.08
No. 2 color, 100 vis., pale oil	.09½	.11	.09½	.11	.09½	.11
No. 2 color, 150 vis., pale oil	.11½	.12½	.11½	.12½	.11	.12
No. 3 color, 200 vis., pale oil	.13½	.14½	.13½	.14½	.13	.14
No. 3½ color, 300 vis., pale oil	.16	.17	.16	.17	.15½	.16½
No. 3½ color, 500 vis., pale oil	.18½	.19½	.18½	.19½	.17½	.18½
No. 3½ color, 750 vis., pale oil	.24	.25	.24	.25	.23	.24
No. 1½ color, 150 vis., filtered	.21	.23	.21	.23	.21	.23
No. 2 color, 200 vis., pale, filtered	.23	.25	.23	.25	.23	.25
No. 3 color, 300 vis., pale, filtered	.28	.29	.28	.29	.28	.29
No. 3½ color, 500 vis., pale, filtered	.32	.33	.32	.33	.32	.33
No. 3½ color, 750 vis., filtered	.38	.40	.38	.40	.38	.40
No. 5 to 6 color, 200 vis., red oil	.11½	.12½	.11½	.12½	.11	.12
No. 5 to 6 color, 300 vis., red oil	.14	.15	.14	.15	.13½	.14½
No. 5 to 6 color, 500 vis., red oil	.16	.17	.16	.17	.15½	.16½
No. 5 to 6 color, 750 vis., red oil	.22	.23	.22	.23	.21	.22
No. 5 to 6 color, 1200 vis., red oil	.24½	.26	.24½	.26	.24½	.26

NEW YORK DOMESTIC MARKET

	Feb. 12	Feb. 5	Jan. 29
Motor Gasoline:			
Greater New York, in steel barrels	.20	.20	.20
New York State outside Greater New York and New England, tank wagon	.20	.20	.20
New Jersey, tank wagon	.19½	.19½	.19½
Gasoline in bulk, delivered at N. Y.	.16	.16	.12
V. M. P. Naphtha, in steel barrels	.19	.19	.19
Kerosene:			
Greater New York, tank wagon	.15	.15	.15
New York State (outside Greater New York and New England, tank wagon	.15	.15	.15
New Jersey tank wagon	.14	.14	.14
Lubricating Oil (Industrial) at refinery:			
Bayonne, N. J.:			
Cylinder, extra light filtered, in barrels	.40½	.40½	.37½
Cylinder, light filtered, in barrels	.36½	.36½	.32½
Cylinder, Bright Stock	.48	.48	.44
Cylinder, steam refined (600)	.26½	.26½	.22½
Black, in bulk	.13½	.13½	.09½
Bloomless, white, 30-31 gravity, 170 vis.	.47	.47	.43
Bloomless, 885 specific gravity	.14½	.14½	.10½
Red Paraffin:			
170 viscosity	.20	.20	.18
212 viscosity	.22	.22	.20
265 viscosity	.24	.24	.22
295 viscosity	.27	.27	.25
Paraffin, 903 specific gravity	.24½	.24½	.22½
*Fuel Oil:			
Bunker Oil, 14 plus, delivered in barges, bbl.	1.60	1.60	1.45
Diesel Oil, at refinery, gallon	.04	.03¾	.03¾
Furnace Oil, tank wagon, gallon	.10	.10	.10
Gas Oil, delivered in New York	.04¼	.04¼	.04¼
Wax, fully refined:			
120-122 a.m.p.	.04½	.04½	.04
125-127 a.m.p.	.04¾	.04¾	.04¼
130-132 a.m.p.	.05	.05	.04⅝
135-137 a.m.p.	.05½	.05½	.05⅝

*Lighterage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

	Feb. 12	Feb. 5	Jan. 29
Motor Gasoline, in cases, gallon	.27.4	.27.4	.27.4
Motor Gasoline, U. S. Navy, spec. gallon	.13.5	.13.5	.13.5
Naphtha, 60° F., 59-61 spec. grav.	.15.0	.15.0	.15.0
Naphtha, 60° F., 63-66 spec. grav.	.17.0	.17.0	.17.0
Naphtha, 60° F., 66-68 spec. grav.	.18.5	.18.5	.18.5
Kerosene:			
Standard white, in bulk, gallon	.07	.07	.07
Standard white, in barrels, gallon	.14	.14	.14
Standard white, in cases, gallon	.17.15	.17.15	.17.15
Water white, in cases, gallon	.08	.08	.08
Water white, in barrels, gallon	.15	.15	.15
Water white, in cases, gallon	.18.5	.18.5	.18.5

CRUDE OIL PRICES

January 30.—Joseph Seep Purchasing Agency advanced all grades of Pennsylvania crude 25 cents, Somerset crudes, medium and light, 15 cents.

January 30.—Indian Refining Co. advanced Western Kentucky light and heavy crudes 15 cents. Paragon Development Co. advanced Warren, Simpson, Cumberland and Monroe County, (Kentucky) crudes 15 cents.

February 2.—Prairie Oil & Gas Co. announced a five-gravity schedule for Oklahoma, Kansas, and North Texas crudes with a price advance of from 15 to 25 cents on all schedules above 30 degrees gravity. Changes met by other purchasing companies. Magnolia Petroleum Co. for the same area advanced its five-gravity schedule from 15 to 25 cents. Same company advanced Corsicana heavy and light Mexia crudes 25 cents. The Texas Co. advanced Currie crude to $2.

February 4.—Ohio Oil Co. advanced Lima, Indiana, Illinois, Princeton, Plymouth, Waterloo and Wooster crudes 20 cents. Midwest Refining Co. advanced Salt Creek crude 25 cents. Canadian crude advanced 20 cents.

February 5.—Standard Oil Co. of California advanced California crudes, all fields, from 15 to 39 cents. Ohio Oil Co. advanced Elk Basin, Grass Creek light, Big Muddy, Rock Creek, Mule Creek, Lance Creek, Osage and Sunburst crudes 25 cents. Cat Creek advanced 25 cents.

February 6.—Standard Oil Co. of Louisiana advanced all grades of North Louisiana and Arkansas crudes 20 cents except Bellevue, which was advanced 25 cents.

February 13.—Corning crude advanced 15 cents.

Arkansas and North Louisiana	
Caddo, 38° and above	$1.70
35° to 37.9°	1.60
32° to 34.9°	1.50
Below 32°	1.35
Homer, 35° and above	1.70
33° to 34.9°	1.60
31° to 32.9°	1.50
Below 31°	1.35
Haynesville, 33° and above	1.60
Below 33°	1.50
El Dorado, 33° and above	1.70
Below 33°	1.60
Bull Bayou, 38° and above	1.65
35° to 37.9°	1.50
32° to 34.9°	1.35
De Soto	1.70
Crichton	1.50
Bellevue	1.55
Smackover, 26° and above	1.35
25° to 25.9°	1.20
24° to 24.9°	1.10
Below 24°	1.00
*Stephens, Ark.:	
Below 23°	.80
23° to 25.9°	1.00
26° to 27.9°	1.15
28° to 31°	1.20

*Posted by Atlantic Oil Producing Co.

Wyoming and Montana	
Rock Creek, (Wyo.)	$1.55
Salt Creek	1.45
Big Muddy	1.35
Mule Creek	.95
Grass Creek (light)	1.80
Elk Basin	1.80
Lance Creek	1.75
Osage	1.75
Cat Creek, (Mont.)	1.80
Sunburst, (Mont.)	.95
Greybull and Torchlight	1.40
Hamilton Dome	.92½

Lander and Lost Soldier based on contracts covering entire production of fields.

Oklahoma, Kansas, North and Central Texas	
Corsicana Light	$1.85
Corsicana Heavy	1.00
Mexia	1.85
Currie	2.00
Powell	1.85
Thrall	1.00
Prairie Oil & Gas Co. and other major purchasing companies except as noted below:	
Below 30°	$1.15
30° to 32.9°	1.30
33° to 35.9°	1.60
36° to 38.9°	1.85
39° and above	2.00
Magnolia Petroleum Co.:	
Below 28°	1.00
28° to 30.9°	1.15
31° to 32.9°	1.30
33° and above, same as Prairie.	
Gulf Coast	
Gulf Pipe Line Co., Goose Creek Hull, Sour Lake, Batson, Saratoga, Spindletop, Orange, Vinton, Edgerly, Jennings	$1.65
Grade "B," Pierce Junction, Blue Ridge	1.40
The Sun Pipe Line Co., Grade "A," Humble, Hull, Goose Creek, Orange, Spindletop, Saratoga, Batson, Dayton, Sour Lake	1.65
Grade "B," Blue Ridge, Pierce Junction	1.40
Texas Pipe Line Co., Humble, West Columbia, Orange, Sour Lake, Saratoga, Batson, Vinton, Jennings, Markham	1.65
Sinclair Pipe Line Co., West Columbia, Damon Mound	1.65
Luling and Laredo	1.00
Milam County	1.35
California	
14° to 19.9°	$1.00
20° to 20.9°	1.01
21° to 21.9°	1.02
22° to 22.9°	1.03
23° to 23.9°	1.05
24° to 24.9°	1.07
25° to 25.9°	1.10
26° to 26.9°	1.13
27° to 27.9°	1.16
28° to 28.9°	1.19
29° to 29.9°	1.22
30° to 30.9°	1.25
31° to 31.9°	1.28
32° to 32.9°	1.31
33° to 33.9°	1.34
34° to 34.9°	1.37
35° gravity and above	1.40
Eastern States	
Penna Grade Oil in New York Transit Lines	$4.50
Bradford District Oil in National Transit Lines	4.50
Penna Grade Oil in National Transit Lines	4.00
Penna Grade Oil in Southwest Pa. Pipe Line Lines	4.00
Penna Grade Oil in Eureka Pipe Line Lines	4.00
Penna Grade Oil in Buckeye Pipe Line Lines	4.00
Cabell Grade Oil in Eureka Pipe Line Lines	2.05
Corning Grade Oil in Buckeye Pipe Line Lines	1.95
Somerset Medium Oil in Cumberland Pipe Line Lines	2.15
Somerset Light Oil in Cumberland Pipe Line Lines	2.35
Ragland Grade Oil in Cumberland Pipe Line Lines	1.00
Lima	$2.13
Wooster	2.00
Illinois	1.92
Indiana	1.93
Princeton	1.92
Plymouth	1.30
Waterloo	1.40
†Oil Springs, Canada	2.60
†Petrolia, Canada	2.53
Western Kentucky (light), (Indian Refining Co.)	2.21
Western Kentucky (heavy), (Indian Refining Co.)	2.01
Warren & Simpson Counties, (Ky.) (Paragon Development Co.)	2.15
Cumberland and Monroe Counties, (Ky.), (Paragon Dev. Co.)	2.35

†Plus Government bounty of 52½c.

Mexican Crude	
*Tuxpam (f. o. b. Mexican ports)	$ .80
†Panuco (f. o. b. Mexican ports)	.65
Tuxpam (New York)	1.31
Panuco (New York)	1.06

*Plus 26.69c tax. †Plus 15.58c tax. Prices based on contracts.

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MEMBER AUDIT BUREAU OF CIRCULATION

WHAT ATTACK ON OIL MEANS

Down at Washington they are thinking of oil only as a factor in the presidential campaign. Throughout the country the mass of the people, taking their cue from the daily newspapers whose first thought is politics, are thinking the same thing.

Even in the petroleum industry there are many who regard the affair simply as it affects the personalities directly involved, heedless of the effect upon the whole industry.

A special article from L. M. Fanning, recently statistician of the American Petroleum Institute and now staff correspondent of The Oil and Gas Journal in New York, published in this issue, shows what thoughtful men in the industry and in the business world are thinking about it. They see, not the mere by-play of partisan politics, but the vastly deeper implications and **threatened developments affecting vitally the entire oil industry, the fabric of our business life and even the foundations of our governmental institutions.**

The public, which has been led to believe that a great national scandal has been unearthed, smirching both parties and men holding or aspiring to the highest positions in the nation, does not stop to analyze the situation. It finds a sufficient excuse for all suspicions in the word "oil." It has been brought up so long on the tradition that there is something inherently crooked about the oil business that it is ready to believe anything without further evidence.

It has been told that oil lands set aside as reserves for the Navy have been leased to two oil companies, that the member of a former cabinet who awarded those leases

(Continued on Page 28)

PRESENTING THE EVIDENCE

As was to be expected the advancing price of gasoline is stirring up renewed agitation against the oil industry. The rising tide of hostility is being accelerated by the political developments at Washington.

The secretary of a motor club in an Eastern city representing 3,000 members writes to the papers that "the motorist can see nothing but a deliberate attempt to gouge the public in the recent boosts that have been given the price of motor fuel." He adds that "it is seldom those who have control of a commodity raise the price without at least giving some reason for the action. No excuse has been given for the attack on the pocketbook of the gasoline consumer." He further intimated that the price had been "shoved up in the winter months so the clamor of protest might not be as loud as in the summer when more cars are being operated and more gasoline purchased."

This critic may not know anything about the oil business but he does know something about business methods too often forgotten in the matter of gasoline advances. In most other businesses when it is found necessary to raise prices the customer is given the reason for it. He is not bluntly told the price is so much more and left to draw his own conclusions, which are very likely to be the same as those drawn by this motor club secretary, that he is simply being held up and robbed.

If he is not being gouged, if the seller has a good reason for advancing the price, the buyer naturally feels he is entitled to the explanation as a matter of common courtesy and good will.

In the advancing of gasoline the oil in-dustry has a perfectly valid explanation to offer, as The Oil and Gas Journal has frequently shown. Just as overproduction last year sent prices below cost, declining production of crude is now restoring prices to normal. The sequence of cause and effect in each case has been plainly shown so it can be understood by all men, but, with some notable exceptions, little or no effort has been made to set the facts before the consuming public.

Yet, as this hostile club secretary shows in his comment, the consumers are expecting an explanation. His statement is really a challenge to the oil industry to produce it. Is this not a suggestion worthy of the immediate attention of the American Petroleum Institute, the American Oil Men's Association, the National Petroleum Marketers' Association, the Eastern and Western Refiners' Associations and all other organizations of oil men?

Just at this writing the mail brings the following extremely pertinent letter from the Attorney-General of the State of Georgia:

State of Georgia
Attorney-General's Office
Atlanta
Geo. M. Napier
Attorney-General

February 2, 1924.

The Oil and Gas Journal, Tulsa Okla.
My Dear Sir:

The price of gasoline in this State has jumped 6c during the last month—in regular steps of 2c up each time. The dealers say that the increase is due to the increase in the cost of crude oil.

I very much desire to publish some documentary evidence that will throw light on this subject. I would be particularly glad to be able to publish to the people of this State the cost of crude oil and the comparative fluctuations in that commodity in the last year, and the comparative price of gasoline during the same time. I would also be pleased to know what the expense of converting a barrel of crude oil into the same number of gallons of gasoline amounts to.

Very truly yours,
GEO. M. NAPIER.

Here is an official, who unlike so many in public and political positions, refuses to jump to conclusions, and asks for the evidence on both sides before attempting judgment, an attitude so rare among public officials as to be amazing.

It should be the business, as well as the interest, of some or every representative body in the oil industry, to see that such information as Mr. Napier asks is at the disposal of anyone interested. When the secretary of a motor club makes the charge that gasoline consumers are being gouged he should be challenged instantly to produce his proof and the truth placed before the public. When a public official is beset by demands for interference with the oil industry the facts should be offered to him for digestion so he may act wisely.

Better still, if reports of such attacks upon the industry were immediately brought to attention for such action, and each attack was met promptly with an answer and a demonstration of the falsity of the charges by reference to the appropriate facts in the case. The time would then come when men would hesitate to make reckless and unwarranted accusations against an industry that was ready for an instant show-down on every misstatement or misrepresentation.

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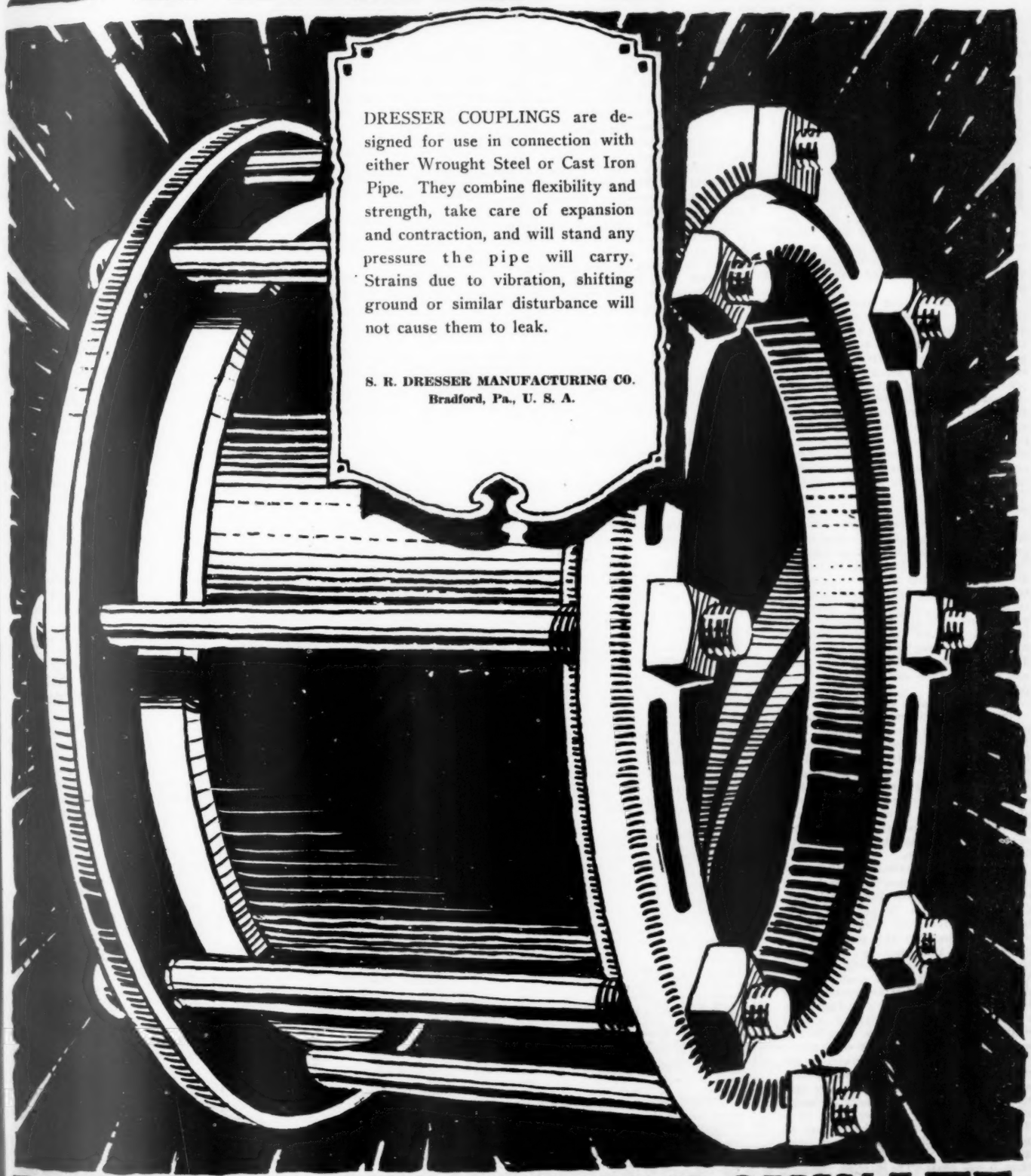
DRESSER



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Reaction in Oil Issues Laid to Politics

Losses of Two or Three Points Attributed to Investigation Being Used By "Bears" to Promote Selling of Securities

By N. O. Fanning
Room 525 No. 30 Church St., New York

NEW YORK, Feb. 11.—Although oil securities held well throughout the early part of last week, a reactionary tendency began to make itself felt toward the close, and losses of two and three points or more were shown in the more active issues. The fact that The Oil and Gas Journal's index reached a new high of 57.46 on February 5, after more than eight 'weeks' continuous rise indicated that a reaction might be due, if for no other cause than the desire on the part of many to take profits.

Nevertheless, nothing much in the way of concrete developments could be advanced as reasons for a set-back other than the possibility of a new oil investigation this year. Despite the experiences of the past, many look upon the political side of the situation with more seriousness than the physical side. In 1923 the oil investigation and political agitation in general was advanced to account for the decline in prices of oil stocks, while the reason was evidently nothing more than the overproduction of crude oil in California and East Central Texas, developments which were apparent to everyone.

Recent political developments are now advanced to account for a decline in the price of securities. Bears have used the "oil scandal," as it is called, to promote selling of stocks, but there are few among the well-informed that care to take the entire industry to task for something with which it is not even charged. During 1923 "politics" were also advanced to promote selling of good oil stocks. Those that purchased them at that time and still hold them can show a very good profit.

Shell Union Oil Active

Among the individual oil issues listed on the New York Stock Exchange, Shell Union attracted considerable attention because of its activity. On several individual days the turnover amounted to as much as 45,000 shares. Thirty thousand shares were traded in at an average of $20 per share within a half hour's trading, this price representing one-eighth of a point below the high record price for this year of 20⅛.

There are approximately 10,000,000 shares of Shell Union Oil stock outstanding, of which the Dutch-Shell combine controls about 70 per cent. The remainder of the stock is said to be not widely distributed. The company was organized in 1922 and is the Royal Dutch-Shell operating subsidiary in the United States. It has a crude oil production of around 100,000 barrels daily in California and the Mid-Continent, combined, refining capacity of around 62,000 barrels daily, and considerable marketing properties in this country.

The company is said to have earned more than $1.75 per share on its common stock in 1923, which at its present quotation of 18½ (close February 8) would represent a yield of 9.45 per cent. Dividends are being paid at the rate of $1 per annum, which at the present price gives an actual yield at the rate of more than 5 per cent. The current yield on Pacific Oil is approximately 3.6 per cent, while that on Standard Oil of California is just about 3 per cent.

Pacific Oil continues active, and advanced to 58¼ during the early part of the week, later reacting to below 53. One of the company's chief assets is control of Associated Oil, which has been a large producer of crude oil in the flush fields of southern California.

Pure Oil Financing

Guaranty Trust Co., Dillon Read & Co., Central Trust Co. of Illinois, Halsey Stuart & Co. and the Continental and Commercial Trust and Savings Bank have formed a syndicate to underwrite a new issue of $15,000,000 Pure Oil purchase money first mortgage serial 5½ per cent bonds. These bonds are being offered at yields ranging from 5 to 7 per cent, depending on date of maturity.

Contract With Prairie and Sinclair

In connection with the Pure Oil financing, B. G. Dawes, head of the company, states that under a contract which Humphreys Oil Co. has with the Prairie Oil & Gas Co. and Sinclair Crude Purchasing Co., the latter agree to purchase at least one-half of the crude produced by Humphreys up to 33,333,333 barrels at $1.50 per barrel. Of this amount approximately 15,000,000 barrels have been delivered. Pure Oil Co. is now purchasing all of the properties formerly owned by Humphreys Oil Co. and Humphreys Pure Oil Co., the above bond issue representing part payment. The Pure Oil Co.'s investment in the Humphreys properties, including current assets, will exceed $39,500,000.

Pure Oil Earnings

Net earnings of the Pure Oil Co., with which are combined the earnings of the Humphreys companies since inception in April, 1921, are given as follows:

	Net Earnings Before Interest and Taxes But After All Depreciation and Depletion
1923	*$13,156,631
1922	6,156,616
1921	7,979,140
1920	6,423,166
1919	7,943,171

*Deductions for depreciation and depletion on producing properties other than the Humphreys properties, have not been made for 1923, as they have not yet been arrived at.

The Indian Refining Co. is said to have received more than $2,000,000 for the producing properties in Illinois and Indiana which it sold recently to the Ohio Oil Co.

The voting trust agreement between certain stockholders of Invincible Oil Corp., and Empire Trust Co., dated November 1, 1922, will be terminated February 15. Stock certificates will be issued for the trust certificates surrendered to Empire Trust Co. on and after that date. Of the 1,000,000 shares of Invincible Oil stock of no par value authorized and outstanding 325,000 shares are listed on the New York Stock Exchange. A large block of the remainder was sold to Standard Oil interests under voting trust agreement.

Imperial Oil, Ltd., declared regular quarterly dividend of 75 cents, Canadian funds, payable March 1 to stock of record February 15.

In connection with the consolidation of the Continental Oil Co. and the Mutual Oil Co., E. T. Wilson, president of the Continental Co., will, it is reported, become chairman of directors of the merged company, and S. H. Keoughan, chairman of the Mutual board, will be president.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

No.	Stock—	Par	‡Dividend Rate	Closing Quotations Feb. 11	Feb. 5	Range 1924 High	Low
1.	American Republics	..	..	*43	..	43	25
2.	Associated Oil	25	6	31½	34	34⅝	28¼
3.	Atlantic Refining, common	100	4	132	136½	140⅛	128⅝
4.	Barnsdall "A"	25	..	17¼	18¼	18⅞	15⅛
5.	Caddo Central Oil	..	..	3	2⅝	4¼	2
6.	California Petroleum, common	25	7	27	28⅜	29¼	24⅝
7.	Cosden & Co., common	..	..	38⅝	39¾	40¼	34⅜
8.	General American Tank	..	†3	*45	*45	46¼	43⅜
9.	General Asphalt	100	..	44⅜	45⅝	46⅝	39⅛
10.	Houston Oil	100	..	78⅜	81⅝	82⅛	67¼
11.	Independent Oil & Gas	10	..	*7⅛	8¼	9¼	6⅝
12.	Indian Refining	10	..	*4	4⅜	5⅞	4¼
13.	Invincible Oil	50	..	14⅞	15¾	15⅞	13⅞
14.	Maracaibo	..	..	33⅛	35	37⅛	25½
15.	Mariand	..	..	40⅛	41⅛	42	35⅛
16.	Mexican Seaboard	..	..	21⅝	23⅛	24⅛	14⅝
17.	Middle States Oil	10	..	6	6¼	6¾	5⅝
18.	National Supply	50	6	70	71⅝	72¼	64½
19.	Pacific Oil	..	†2	53½	57⅜	58¼	48¾
20.	Pan-American, common	50	16	48¼	48⅝	61¼	46⅝
21.	Panhandle Prod. & Ref.	..	..	*3½	3½	4⅛	2¼
22.	Phillips Petroleum	..	†2	40⅛	42	42¼	33¾
23.	Pierce Oil, common	25	..	3¼	3½	4½	2⅝
24.	Producers & Refiners	50	..	39⅝	41¼	43½	34¼
25.	Pure Oil Co., common	25	6	25⅝	26⅛	26⅝	23⅝
26.	Royal Dutch, N. Y., sh.	12.40	2.62	56½	58½	59⅛	48
27.	Shell Transport	10	x92½	*39	41	41½	33
28.	Shell Union, common	..	†1	19	19⅝	20⅛	16⅝
29.	Simms Pet.	10	..	12⅜	13⅛	14⅛	10⅜
30.	Sinclair Consolidated, common	..	†2	22⅝	24	27⅛	21⅝
31.	Skelly Oil	25	..	27¼	28⅞	29	24⅜
32.	Standard of California	25	8	64½	68	68½	62¼
33.	Standard Oil of N. J.	25	4	40⅝	42	42¼	39⅝
34.	Standard of New Jersey, pfd.	100	7	117½	117⅝	118⅝	117
35.	Superior Oil	..	..	3⅝	3¼	4¼	2¾
36.	The Texas Co.	25	12	44⅝	45⅜	45⅝	43⅛
37.	Texas & Pacific Coal & Oil	10	..	13⅝	14⅝	15¼	10½
38.	Tide Water Oil	100	4	146	145⅝	15¼	120
39.	Transcontinental	..	..	4⅝	5½	6¼	4
40.	Union Tank, preferred	100	7	*100	*107	102½	94
41.	White Eagle Oil & Ref.	..	2¼	28⅝	28⅝	29¼	26
	Standard Oil Stocks						
42.	Anglo-American Oil	£1	20	16⅝	17⅛	18	15⅝
43.	Borne Scrymser	100	12	175	168	175	150
44.	Buckeye Pipe Line	50	14	71¼	72½	85½	66
45.	Chesebrough Mfg., com.	100	14	364	345	365	234
46.	Continental Oil	25	8	50½	51¼	54⅞	42½
47.	Crescent Pipe Line	25	..	19	*18½	29	16½
48.	Cumberland Pipe Line	100	10	134½	130	136	109
49.	Eureka Pipe Line	100	8	98	99	105	96½
50.	Galena-Signal, common	100	4	*68	68½	69⅝	65
51.	Humble Oil & Ref.	25	4.8	41¼	42⅝	43⅝	37⅝
52.	Illinois Pipe Line	100	16	*143	146	161	136
53.	Imperial Oil, Ltd.	25	16	113	116½	119	111⅝
54.	Indiana Pipe Line	50	16	93	90	100	85
55.	Intl. Pet. Co.	..	x50	20⅝	21⅞	22¼	20⅛
56.	Magnolia Pet.	100	4.5	149	153½	162	149
57.	National Transit	12.50	16	24¼	*25	25⅞	21½
58.	New York Transit	100	10	91	89½	97	73
59.	Northern Pipe Line	100	25	101½	103	107½	93½
60.	Ohio Oil Co.	25	4	*73	76⅛	79½	70⅝
61.	Penn-Mex Fuel	25	..	35½	38½	45⅝	34
62.	Prairie Oil & Gas	100	8	247	258	269	240
63.	Prairie Pipe Line	100	8	106¼	109	111	104
64.	Solar Refining Co.	100	15	*210	218½	230	170
65.	Southern Pipe Line	100	16	*97	97	100	89½
66.	South Penn Oil	100	..	165	165	176	155
67.	South West Pa. Line	100	8	87	87	89	81
68.	Standard of Indiana	25	10	63⅜	67⅝	63⅝	62⅜
69.	Standard of Kansas	25	8	47¼	48½	50½	42½
70.	Standard of Kentucky	25	16	113	114⅜	120	107
71.	Standard of Nebraska	100	20	235	234	256½	198
72.	Standard Oil of N. Y.	25	5.6	45	47	48	45
73.	Standard of Ohio, common	100	10	*325	*333	336	305
74.	Swan & Finch	100	..	76	46	76	34
75.	Vacuum Oil	25	10	62⅜	67⅝	69¼	56½
76.	Washington Oil	10	..	21½	27	27	25
	Miscellaneous Stocks						
77.	Cities Service, banker's shares	..	‡21	15½	15⅞	16	14⅞
78.	Gulf Oil Corp. of Pa.	25	6	61⅞	64¼	65	58⅝

*Bid, no sales. †In dollars. ‡6 per cent in cash and 15 per cent stock dividend declared; now being paid in scrip. §The figures carried in this column are kept up-to-date as far as possible but are not guaranteed. xCents per share.

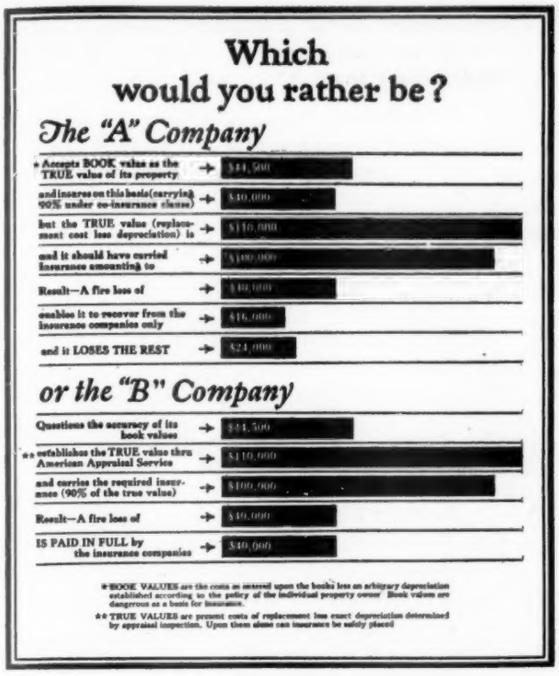
The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange weekly was as follows:

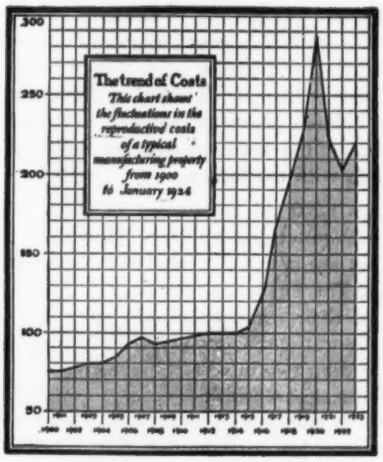
Feb. 11	55.67	Jan. 8	53.68	Dec. 4	48.66
Feb. 5	57.46	Dec. 30	53.77	Nov. 27	47.74
Jan. 29	55.40	Dec. 24	53.28	Nov. 20	46.26
Jan. 22	52.90	Dec. 18	51.29	Nov. 13	43.84
Jan. 15	52.70	Dec. 11	49.27	Nov. 6	42.60

WAITE PHILLIPS CO. POSTS NEW PRICES FOR OKLAHOMA OIL

What is regarded in some quarters as a good indication of the trend of the crude oil situation in the Mid-Continent territory and which may be the forerunner of another general increase in the posted price of crude in that area was the action of the Waite Phillips Co., announced yesterday (February 13), in posting new and higher quotations for crude at Okmulgee, Slick, Eagle and Bristow where it purchases, it is said, something around 6,000 bbls. a day. The prices posted by this company represent an advance of from 5 to 25 cents over the posted prices of the Prairie Oil and Gas Co., the Waite Phillips Co. prices in the districts named now being as follows: Below 30 degrees, $1.20; 30 to 32.9 degrees, $1.30; 33 to 35.9 degrees, $1.75; 36 to 38.9 degrees, $2.05, and 39 degrees and above, $2.25.

For some time many refiners in the Mid-Continent area have had difficulty in procuring sufficient crude for their requirements. It is believed that with so many concerns being forced to pay prices above those posted by the major purchasing agencies, the larger buyers will be forced to meet these higher prices or lose additional connections with some of the producers.


Which
would you rather be?
The "A" Company
* Accepts BOOK value as the TRUE value of its property → $44,500
and insures on this basis (carrying 90% under co-insurance clause) → $40,000
but the TRUE value (replacement cost less depreciation) is → $116,000
and it should have carried insurance amounting to → $100,000
Result—A fire loss of → $40,000
enables it to recover from the insurance companies only → $16,000
and it LOSES THE REST → $24,000
or the "B" Company
Questions the accuracy of its book values → $44,500
** establishes the TRUE value thru American Appraisal Service → $110,000
and carries the required insurance (90% of the true value) → $100,000
Result—A fire loss of → $40,000
IS PAID IN FULL by the insurance companies → $40,000
* BOOK VALUES are the costs as entered upon the books less an arbitrary depreciation established according to the policy of the individual property owner. Book values are dangerous as a basis for insurance.
** TRUE VALUES are present costs of replacement less exact depreciation determined by appraisal inspection. Upon them alone can insurance be safely placed



Write for S-2 "Appraisals as a Foundation for Property Records"

40 words in your policy may cost $40,000

Have you fulfilled the obligations which the co-insurance clause of your fire insurance policy demands?

The A. A. Representative

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1. To show wherein plant accounts may or may not reflect original costs or current values; to suggest a basis for securing a proper recognition of "plant and equipment" as an asset factor with bankers.
2. To outline plans for accurately establishing depreciation and obsolescence as a part of overhead charged to manufacturing costs.
3. To determine whether or not existing methods of handling plant accounts lead to inequities in taxes.
4. To suggest a trustworthy basis for bringing property values into agreement with insurance requirements and forms, and for maintaining this agreement to eliminate avoidable losses.
5. To describe and illustrate modern practice for property account control in all its phases—card systems, equipment ledgers, etc.
6. To outline practical methods for departmentalizing property for cost accounting purposes.
7. To draw concise and simple specifications for An American Appraisal that will meet in the most practical manner a given set of property control and property valuation problems.

The service of these representatives is gratis—yours for the asking. If they don't know they'll find out for you. Use them.

IF you use co-insurance, you will find in one of the rider forms attached to your policy about 40 words that demand your understanding. They state that the insurance company

> "shall be held liable for no greater proportion of any loss than the amount hereby insured bears to 90% of the actual cash value of the property described herein at the time when such loss shall happen."

If you understand it and comply with its provisions, any loss you may suffer will be adjusted as satisfactorily as was that of the B Company in the chart above.

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Books of account do not tell the truth about actual cash values, because, first, they do not reflect changes in market prices, second, many true capital (insurable) items have been expensed, and, third, depreciation is all too frequently determined arbitrarily rather than in accordance with the actual exhaustion, wear and tear, and obsolescence of the property.

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The superiority of its work and methods has made it the largest appraisal organization in the world.

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An American Appraisal

THE AUTHORITY

WHAT ATTACK ON OIL MEANS

(Continued from Page 24)

put himself under obligations to those who received the contracts. It has yet to be shown in court, the only authority having jurisdiction and untainted by political bias, that those leases were unfair to the Government. Instead of waiting for that judicial determination **popular opinion proceeds to lynch not only those concerned in the contracts but the entire petroleum industry which had nothing whatever to do with the leases.**

There are 1,200 oil companies in Tulsa alone, and scores of thousands throughout the country. Run over the list of the great companies that are not in the remotest degree affected, the Standard organizations, The Texas Co., the Gulf Co., the Pure Oil Co., and the long roster of their competitors, the great producing, refining and marketing corporations which go to make up the petroleum industry with its more than two billions of investment. Yet mob opinion, inflamed by political partisanship, is already indicting every oil man in the country. Is this fair? Is it in consonance with our American ideal of a square deal, of common justice, of every man being entitled to his day in court?

Back of the efforts of the oil-spattering senators and spellbinders of the two old parties there is the sinister figure of the radical element, gloating over the mutually disheveling revelations of the Republicans and Democrats. La Follette and his cohorts are rejoicing at the greatest piece of luck that has ever befallen them. Oil, their great standby in denunciation, is being shown up as worse even than they had pictured. The whole country is talking of it. It is pilloried as subverting the very Government itself. Each of the old parties is portrayed as deep in the mud as the other is in the mire. Only the radicals are immaculate and pure, the natural champions of the plain people. And La Follette and his followers are preparing to make the most of it.

The naval lease row is only a curtain raiser. Behind the scenes at Washington the stage is being set for the big show. La Follette has announced his intention of introducing a new bill that will rope the "oil octopus" for all time. **The great danger is that in a Congress stamped by the political chaos impending there will not be a man brave enough to withstand the radical onslaught through fear of being branded with oil. Any kind of a regulatory or restrictive bill is likely to get through, even over a presidential veto.** And a misled popular opinion is just as likely to turn thumbs down and applaud the policy of destruction. We are in danger of wrecking the second largest industry in the country, whose functioning is fundamental to our transportation, industrial and commercial progress simply because of politics! The whole oil industry is placed in the dock because of accusations leveled at a few. It would be as consistent to indict the whole Government because of charges against a few men in public life. The bulk of those who are denouncing the oil industry would indignantly repudiate a similar denunciation of the Government for the alleged indiscretions of a few officeholders. Then why this sweeping abuse of the oil business threatening the overthrow of a great industrial structure?

For that is what the success of the radical program will mean to the oil industry and, for that matter, to industry in general dependent upon the continued and constantly increasing supply of motor fuel and lubrication. **If politics is permitted to paralyze the petroleum industry, if popular hostility is to withhold the new capital needed to expand the activities of the producers of oil, just at the moment when the industry is convalescing from the worst depression ever experienced, what chance is there of the dwindling production of crude being increased to meet the daily growing demands of world industry for petroleum products?**

What, moreover, will be the probable effect upon progress and prosperity at large if, as is not impossible, radical agitation triumphs and secures control of the Government?

The attack upon oil, now being planned at Washington, is of instant concern to not only everyone in the oil business but to all in any business, to every American jealous of our institutions. And, as The Oil and Gas Journal has asked before, **what is the petroleum industry doing about it?**

It has been forewarned in these columns of what is actually now threatening to come to pass. Time after time it has been urged that the industry get together and formulate a defense, a plain statement of its very excellent case, in order that the American people may know the truth and act accordingly. Yet here we are on the eve of the zero hour at Washington, with the most radical elements in our country's history preparing to "go over the top" and the oil industry is waiting helplessly to be stampeded.

Credit must be given the Prairie Oil & Gas Company for its singlehanded effort to repulse the attack on the gasoline market. Its statement filed with President Coolidge is deserving of the widest publicity but is dismissed in the daily press with a routine summary of one sentence that utterly fails to convey any information to anybody.

Surely it is time the organized bodies in the industry, the American Petroleum Institute, the producing and refining and marketing organizations, awoke to the seriousness of the situation and undertook a definite plan of defense.

What is needed is for the industry to call a conference, have its facts assembled and framed into a frank statement for presentation by counsel before Congress and the country. The facts are all in its favor; they are so simple that the man in the street can understand them; they are so capable of proof beyond challenge that they cannot be contradicted.

The hesitation to summon such a conference and to organize such a defense is attributed to the survival of old-time fears. The Standard presumably feels it cannot lead lest it be accused of dominance. The independents, accustomed to leaning on the major organizations, simply wait. But the political radicals are not waiting. They are pressing to make hay while their sun of scandal shines.

The attack is to be made not against any one or two companies, but against the oil industry as a whole. The defense must be as broad. No flank must be left uncovered. The naval lease cases are wholly apart from this necessity. They can be left to the courts where they belong. The issue for the industry is before Congress, the prevention of paralyzing legislation in a moment of popular and political fury.

The need for defensive action is immediate and imperative. The attack is certain and should be anticipated. The battle for public opinion must be waged at once, not after popular sentiment has been irrevocably set by hearing only one side. No help need be looked for from a Congress where the mere taint of oil is feared as a plague. Congress must be brought to reason through public opinion and **it is to the people the industry must appeal for protection and a verdict.**

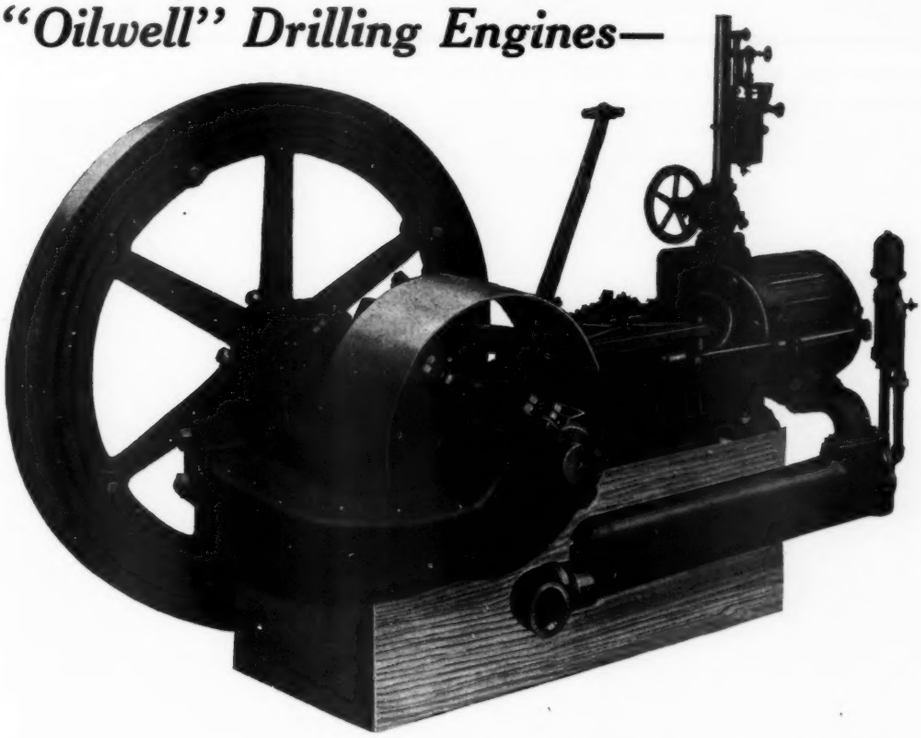
PRESENTING THE EVIDENCE

(Continued from Page 24)

It would be different if the oil industry had no case or a poor case, if there really was an organized effort to gouge the consumer. Silence in that case might be taken for confession and could not make matters worse. But when an industry has so good and so clear a case as the oil business has in making the present advances in price, when it is so convincing that it needs only to be shown to the public, silence is suicidal. It is taken by hostile opinion as confirming every suspicion, justifying every charge. It is making enemies where it is possible to win friends. It is furnishing ammunition to every demagog and politician for fresh campaigns against the industry and renewed efforts to hamstring it by official and legislative interference.

The industry, as a whole, cannot afford to be silent in the face of such mendacity. It owes it to itself as well as to the country to defend and put itself right before the people.

"Oilwell" Drilling Engines—



The Outboard Bearing

The large bearing surfaces of wearing parts, together with its sturdiness and positive manner of lubrication, have given the "Oilwell" Drilling Engine its world wide reputation for durability and reliability.

As drilling has become more severe, due to increased depth of wells and in consequence heavier strings of tools to be handled, we have strengthened the engine shaft to meet these conditions by furnishing an outboard bearing as illustrated above.

Its construction is such that a belt, already clamped together, can be put on the engine pulley without removing any part of the outboard bearing.

"The modern 'Oilwell' Drilling Engine is the outcome of long experience because 'Oil' and 'Oilwell' have grown up together."

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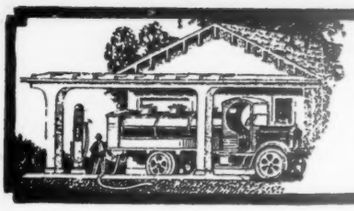


TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, Feb. 12

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO (INDIANA)

Main Service Station Price

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
Chicago district	18.0	..	20.0	13.0

Tank wagon prices on April 10, 1922, g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c; k. down 1c; Oct. 10, g. down 2c; Oct. 31, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c; k. up 1c; Feb. 5, g. up 2c, k. 1c.

Decatur, Ill.	18.2	..	20.2	12.5
East St. Louis	17.1	..	19.35	11.6
Joliet	18.4	..	20.4	12.7
Peoria	18.2	..	20.2	12.5
Quincy	18.2	..	20.2	12.3
Davenport, Ia.	16.5	..	18.5	12.9
Des Moines	18.5	..	20.5	12.9
Keokuk	18.5	..	20.5	12.9
Sioux City	18.1	..	20.1	12.5
Duluth, Minn.	19.2	..	21.2	13.6
Minneapolis	18.9	..	20.9	13.6
La Crosse, Wis.	19.2	..	21.2	13.4
Milwaukee	18.1	..	20.1	12.3
Madison	18.3	..	20.3	12.5
Detroit, Mich.	18.8	..	20.8	13.2
Grand Rapids	18.7	..	20.7	13.1
Saginaw	18.9	..	20.9	13.3
Evansville, Ind.	20.0	2.0	22.0	12.5
Fort Wayne	20.4	2.0	22.4	12.9
Indianapolis	20.4	2.0	22.4	12.7
South Bend	20.4	2.0	22.4	12.9
Fargo, N. D.	20.6	1.0	22.6	15.6
Huron, S. D.	22.0	2.0	24.0	14.1
Sioux Falls	21.5	2.0	23.5	13.6
*Kansas City	18.9	1.0	20.9	11.3
Springfield	17.8	..	19.8	12.2
*St. Louis	17.6	.5	19.9	12.0
*St. Joseph	18.3	.5	20.3	12.2
Wichita, Kans.	17.8	..	19.8	11.8
Bartlesville, Okla	17.9	1.0	19.9	10.9

*City tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
*Pittsburgh, Pa.	20.0	..	25.0	14.0
*Philadelphia	20.0	..	25.0	14.0
*Scranton	20.0	..	25.0	14.0
*Allentown	20.0	..	25.0	14.0
*Altoona	20.0	..	25.0	14.0
Dover, Del.	22.0	2.0	25.0	14.0
Wilmington	22.0	2.0	25.0	14.0
Providence, R. I	20.0	..	23.0	14.0
Springfield, Mass	20.0	..	23.0	14.0
Worcester	20.0	..	23.0	14.0
Boston	20.0	..	23.0	14.0
Hartford, Conn.	21.0	1.0	24.0	14.0
New Haven	21.0	1.0	24.0	14.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
Atlanta, Ga.	20.0	3.0	24.0	13.0
Augusta	24.0	3.0	26.0	14.5
Macon	24.0	3.0	26.0	15.5
Savannah	22.0	3.0	24.0	14.0
Birmingham, Ala.	22.0	2.0	24.0	15.5
Mobile	21.0	2.0	23.0	13.5
*Montgomery	23.0	3.0	25.0	16.5
Clarksdale, Miss	20.0	1.0	22.0	14.0
Jackson	20.0	1.0	22.0	12.0
Natchez	19.5	1.0	21.5	13.5
Vicksburg	19.5	1.0	21.5	13.5
Jacksonville, Fla	22.0	3.0	24.0	14.0
Miami	24.0	3.0	26.0	16.5
Pensacola	22.0	3.0	24.0	14.5
Tampa	22.0	3.0	24.0	14.0
Covington, Ky.	21.0	1.0	23.0	15.0
Lexington	21.0	1.0	23.0	15.0
Louisville	20.0	1.0	22.0	14.0

*In addition to State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
Albany, N. Y.	20.0	..	22.5	14.0
*New York	20.0	..	22.5	15.0
Buffalo	18.5	..	21.5	15.0
Rochester	19.5	..	21.5	13.0
Syracuse	19.5	..	21.5	15.0
Boston, Mass.	20.0	..	22.5	15.0
Providence, R. I	20.0	..	22.5	15.0
Augusta, Me.	20.0	1.0	23.5	15.0
Manchester	20.0	1.0	23.5	15.0
Burlington, Vt.	20.0	1.0	23.5	15.0

*Price in steel barrels.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
Newark, N. J.	19.5	..	....	14.0
Atlantic City	19.5	..	....	14.0
Annapolis, Md.	21.0	2.0	23.0	14.0
Baltimore	21.0	2.0	23.0	13.0
Cumberland	21.0	2.0	24.0	13.5
Washington, D. C.	19.0	..	23.0	13.5
Norfolk, Va.	22.0	3.0	24.0	14.0
Petersburg	22.0	3.0	24.0	14.5
Danville	22.0	3.0	24.0	14.5
Richmond	22.0	3.0	24.0	14.5
Roanoke	22.0	3.0	24.0	14.5
Keyser, W. Va.	21.0	2.0	....	14.5
Charleston	21.0	2.0	....	14.5
Parkersburg	21.0	2.0	....	13.0
Wheeling	21.0	2.0	....	14.5
Charlotte, N. C.	22.0	3.0	....	14.5
Hickory	22.0	3.0	....	14.5
Mt. Airy	22.0	3.0	....	14.5
Salisbury	22.0	3.0	....	14.5
Charleston, S. C.	22.0	3.0	....	13.5
Columbia	22.0	3.0	24.0	14.5

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
Denver, Colo.	21.0	2.0	23.0	14.5
Glenwood Spgs.	25.0	..	....	18.5
Pueblo	21.0	..	....	14.5
Billings, Mont.	23.5	2.0	25.5	16.5
Butte	25.0	2.0	27.0	17.0
Great Falls	25.0	2.0	27.0	18.0
Helena	25.0	2.0	27.0	18.0
Miles City	24.5	2.0	26.5	17.5
Boise, Idaho	24.5	2.0	26.5	20.0
Salt Lake, Utah	24.0	2.5	26.0	17.5
Ogden	24.0	2.5	26.0	17.5
Basin, Wyo.	22.0	1.0	....	15.0
Casper	20.0	1.0	22.0	13.0
Cheyenne	21.5	1.0	23.5	15.0
Cody	23.0	1.0	....	16.0
Lander	22.0	1.0	26.0	15.0
Albuquerque, N. M.	24.0	1.0	26.0	17.5

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
Dallas, Tex.	14.0	1.0	17.0	10.0
Fort Worth	17.0	1.0	20.0	11.0
Houston	17.0	1.0	21.0	12.0
San Antonio	15.0	1.0	18.0	10.0
El Paso	17.0	1.0	20.0	13.0
Muskogee, Okla.	19.0	1.0	22.0	13.0
Oklahoma City	18.0	1.0	22.0	13.0
Tulsa	19.0	1.0	22.0	11.0
Ft. Smith, Ark.	22.0	4.0	25.0	13.0
Little Rock	22.0	4.0	25.0	13.0
Texarkana	21.0	4.0	24.0	13.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
Omaha	18.25	..	20.25	12.5
Crawford	19.0	..	....	13.25
McCook	19.75	..	21.75	14.0
Norfolk	18.75	..	20.75	13.0
North Platte	19.75	..	21.75	13.75
Scotts Bluff	19.25	..	21.25	13.25

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
New Orleans, La	17.5	1.0	20.5	9.0
Alexandria	18.5	1.0	21.5	13.0
Baton Rouge	17.0	1.0	20.0	11.5
Lake Charles	18.5	1.0	21.5	13.0
Shreveport	18.5	1.0	21.5	13.0
Memphis, Tenn.	20.0	2.0	22.0	14.0
Chattanooga	20.5	2.0	22.5	14.5
Knoxville	21.5	2.0	23.5	15.0
Nashville	19.5	2.0	20.5	13.5
Bristol	22.0	2.0	24.0	15.5
Little Rock, Ark	21.0	2.0	23.0	13.0

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
San Francisco	17.0	2.0	20.0	15.5
Los Angeles	16.0	2.0	19.0	15.5
Fresno	17.5	2.0	20.5	17.5
Reno, Nev.	20.5	2.0	23.5	19.0
Portland, Ore.	19.0	3.0	22.0	16.5
Seattle, Wash.	18.0	2.0	19.0	16.5
Tacoma	18.0	2.0	21.0	16.5
Spokane	22.0	2.0	25.0	20.5
Phoenix, Ariz.	23.0	3.0	26.0	21.5

OHIO

Standard Oil Co. (Ohio)

	Gasoline Tank wagon	Gasoline Incldg tax	Gasoline Service station	Kero. Tank wagon
All Ohio points	20.0	..	22.0	15.0

TANK WAGON CHANGES

(Not Previously Reported)

February 5.—Magnolia Petroleum Co. reduced gasoline tank wagon and service station prices 2 cents at Dallas, Texas.

February 6.—Standard Oil Co. of Indiana established gasoline tank wagon price of 16.5 cents and service station price of 18.5 cents at Davenport, Iowa.

February 7.—Continental Oil Co. advanced gasoline tank wagon and service station prices 2 cents in Colorado and Wyoming.

February 8.—Magnolia Petroleum Co. advanced gasoline tank wagon and service station prices 2 cents and kerosene tank wagon price 1 cent in Oklahoma. Continental Oil Co. advanced gasoline tank wagon and service station prices 2 cents in Montana, Utah and Idaho.

February 9.—Atlantic Refining Co. advanced gasoline tank wagon and service station prices 1 cent in Pennsylvania and Delaware.

February 11.—Standard Oil Co. of Kentucky advanced kerosene tank wagon price 1 cent in Kentucky.

New Wyoming Merger Will Include Marine And Other Companies

CASPER, Wyo., Feb. 9.—The Wyokans Syndicate was taken over by the Marine Oil Co. interests this week through a deal just completed by Max W. Ball, president of the Marine. This deal gives the Marine extensive holdings on the west side of the Salt Creek Field. Another deal that will merge the present Marine with several other firms to form a giant company is now pending according to rumors and this deal will result in the Western Oil Co. which new firm will take over all of the other interests and make one big company in control of all. This will mean the Marine Oil Co., Glenrock Oil Co., Wolverine Oil Co., Wyokans Syndicate, Royalty & Producers, Bessemer Oil Co., and possibly the Big Indian and Domino Interests, will consolidate under the Western Oil Co. name as one firm and under the management of Max W. Ball.

TO DISSOLVE HUMPHREYS CO.

MEXIA, Tex., Feb. 9.—Dissolution of the Humphreys Oil Co., favored by a directors' meeting in New York Thursday, will be acted upon by the stockholders of the company at a meeting here March 1, it was announced today. The Pure Oil Co. about a year ago purchased the Humphreys company, the capital stock of which was $15,000,000.

INDIAHOMA RECEIVERS

MUSKOGEE, Okla., Feb. 11.—Ancillary receivers for the Oklahoma properties of the Indiahoma Refining Co. of Okmulgee and St. Louis were named by Judge Robert L. Williams in the United States District Court here. He named J. H. Ober of Baltimore, and William Owen, an oil man, of Muskogee.

CHARLES J. CAWARD DIES

MASON CITY, Iowa, Feb. 12.—Charles J. Caward, president and general manager of the Mason City Oil & Grease Co., well known business man of this city, died here this morning. Mr. Caward was prominent in oil jobbing circles of the State and at the time of his death was vice president of the Iowa Independent Oil Men's Association.

C. J. Caward

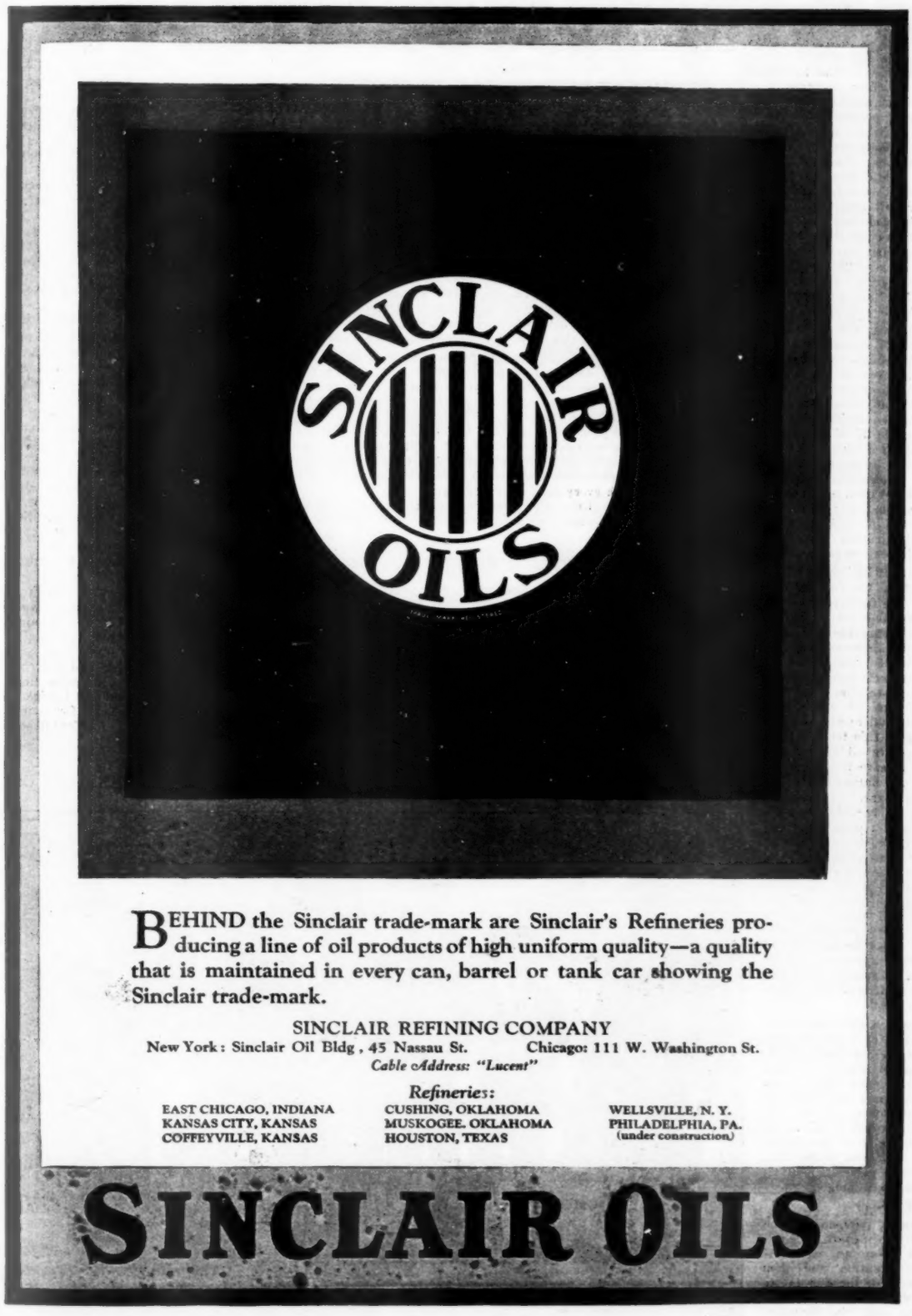
MID-CONTINENT REFINERY OPERATIONS, FEBRUARY 2

Two additional plants have been added to the weekly report of the Western Petroleum Refiners' Association covering refinery operations in the Mid-Continent Field making a total of 137 with a daily still capacity of 531,450 barrels. Comparative reports from identical refineries covering the past two weeks ending February 2, indicates a decrease in crude run to stills and also a decrease in gasoline, kerosene and fuel oil production. Shipments were comparatively slow, however, and stocks of gasoline, kerosene and fuel and gas oil increased.

CONSOLIDATED STATEMENT COVERING ALL REPORTING REFINERIES FOR WEEK ENDING 7 A. M., FEBRUARY 2, 1924

	Kansas	Oklahoma	Texas	Louisiana-Arkansas	Total	Wk. End. Jan. 26-24	Wk. End. Dec. 29-23	Wk. End. Nov. 1-23
Number of ref. reporting	24	60	41	12	137	135	134	131
Daily capacity of stills, bbls.	83,900	286,200	135,150	46,200	531,450	525,950	521,250	497,400
Combined operations during week:								
Materials to stills, bbls.:								
Crude, Item A	247,157	844,531	461,938	88,917	1,642,543	1,806,995	1,707,373	1,454,731
Other oils (see note) Item B	23,154	151,006	163,693	15,682	353,540	375,268	294,646	305,963
Total	270,311	995,537	625,636	104,599	1,996,083	2,182,263	2,002,018	1,760,694
Output of finished products, gals.:								
Gasoline, Item C	4,026,862	13,941,659	4,841,371	956,508	23,766,400	27,167,956	24,098,446	20,838,686
Kerosene, Item D	1,156,915	4,289,588	2,209,402	312,727	7,968,632	8,355,939	8,313,701	5,956,535
Gas and fuel oil, Item E	5,039,160	18,275,685	11,496,551	1,985,665	36,801,061	38,187,877	36,986,812	30,794,137
Stocks on hand at close of week:								
Materials for stills, bbls.:								
Crude, Item J	561,848	4,370,868	1,011,593	1,070,812	7,015,121	6,644,584	7,121,476	6,423,353
Other oils (see note) Item K	29,820	1,013,847	434,105	553,168	2,030,940	2,017,717	1,866,604	1,878,132
Finished products, gals.:								
Gasoline, Item L	9,238,911	65,944,027	40,893,214	6,178,611	122,254,763	120,893,253	111,791,599	103,242,230
Kerosene, Item M	1,513,574	7,923,552	10,961,352	584,020	20,982,998	19,847,093	20,654,709	13,277,631
Gas and fuel oil, Item N	6,842,772	49,139,221	46,299,385	11,461,061	113,722,439	109,954,242	106,787,443	116,220,175

Note—Other oils includes all oils other than crude which are either purchased or withdrawn from stocks and run to stills during the week. The total of Items A and B is, therefore, the net quantity of materials consumed by the reporting refineries in producing the quantities of products shown as the result of the operation of the refineries during the week. Item K includes all stocks of oils, other than crude, held for further refining.



BEHIND the Sinclair trade-mark are Sinclair's Refineries producing a line of oil products of high uniform quality—a quality that is maintained in every can, barrel or tank car showing the Sinclair trade-mark.

SINCLAIR REFINING COMPANY

New York: Sinclair Oil Bldg, 45 Nassau St. Chicago: 111 W. Washington St.

Cable Address: "Lucent"

Refineries:

EAST CHICAGO, INDIANA
KANSAS CITY, KANSAS
COFFEYVILLE, KANSAS
CUSHING, OKLAHOMA
MUSKOGEE, OKLAHOMA
HOUSTON, TEXAS
WELLSVILLE, N. Y.
PHILADELPHIA, PA.
(under construction)

SINCLAIR OILS

La Follette Jumps Into Teapot Fray

McAdoo Defends Doheny Service. President Coolidge Emphatic In Stating His Stand For Judicial Determination of Issues

WASHINGTON, D. C., Feb. 11.—Senator La Follette, in his first speech on the naval reserve affair, declared it was "only one of a large number of raids on the public treasury perpetrated by a sinister system of private monopoly," and demanded the enactment of "new laws to throw a stronger cloak of protection around the public domain." He asserted that President Coolidge and his cabinet "must bear full measure of responsibility" and he endorsed the resolution calling for the resignation of Secretary Denby, concluding with the prediction that the oil scandal "would be as fatal to the administration of President Coolidge as was the Ballinger case to former President Taft."

Secretary McAdoo was the chief witness before the Senate committee. He read a prepared statement declaring he had no relation whatever to the leases made on Teapot Dome or the naval reserves. His professional connection with E. L. Doheny was in connection with the controversy over Article 27 of the Mexican constitution, which attempted to assert ownership over mineral deposits granted American concessionaries. He said the policy of the Wilson administration in protesting against this as an invasion of American rights was followed by the Harding administration and was made a condition of Mexican recognition.

"During the year 1918," he said, I was director-general of the railroads of the United States. The fuel problem was one of the most serious with which we had to deal. I was then made to realize keenly the tremendous importance of fuel oil from Mexico. A great number of industries along the Atlantic seaboard were dependent upon Mexican fuel oil. The preservation of this fuel oil supply was then and is now essential to our internal economy. Not alone is this true, but the question of an adequate oil supply and of an adequate oil reserve is one of the most important for any nation under condition of modern warfare. In fact, the crucial test in the next war, if one should come, is going to be not alone war machinery and appliances, but control of an adequate supply of petroleum to meet the needs of national defense and offense. It is no exaggeration to say that the strongest nation in petroleum reserves will be the most likely victor in such a contest. For all of these reasons, therefore, the American Government and the American people, were interested in preserving the Mexican oil supply which was lawfully owned or controlled by American citizens.

"It has been assumed that honorably law conducted practice of a citizen holding no public office, is not ordinarily a subject of congressional inquiry. I think it may be fairly presumed that if my name was not prominently mentioned in conection with high office, my private practice as a lawyer would be of no interest to this committee or to the public. Whether or not it has been drawn into this inquiry to serve a partisan political purpose, the country will judge."

Bonfil's Story

Frederick G. Bonfils, publisher of the Denver Post, told the Senate committee that his paper began an expose of the Teapot Dome situation and then had stopped. He said there was an agreement under which Harry F. Sinclair E. L. Doheny and "the Standard Oil allied companies" conspired to assure award of the Teapot Dome Naval Oil Reserve lease to Sinclair. Bonfils said in addition to the payments made to that group the Midwest and Pioneer Companies who also had interests in the district received $1,000,000 in oil produced by the Sinclair Company from Teapot. Mr. Bonfils said he had assisted Leo Stack to enforce a contract Stack had with the Midwest and other companies to acreage in Teapot Dome before it was leased to Sinclair. Stack was to receive $50,000 and the remainder was to be divided 46½ per cent to Stack, 23¼ per cent to Bonfils and 23¼ per cent to the partner of Bonfils and 7¼ per cent to Bonfils' attorney, H. H. Swartz.

Bonfils said on August 15, 1922, the Denver Post began a series of articles on this situation and copies were sent to members of Congress after which Senator LaFollette introduced his resolution for an investigation. They went to see Sinclair in New York who at first was rather brusque toward them, saying their suit was against the Midwest and allied companies but later at Kansas City a contract was signed by which Sinclair interests were to pay Stack $250,000 and give those interested in the Stack contract 320 acres in the reserve which they were to buy back by March 13 next, for $750,000 if the holders desired to sell. He said Doheny had been much interested in Stack's efforts to obtain the Teapot Dome lease but suddenly for some unknown reason withdrew. Bonfils explained that the $250,000 had been divided between him and his partners, after the first news story had been printed. Bonfils said the other stories were withheld as they were apprehensive of libel suits.

Claim in Salt Creek

The suits he and Stack had instituted, he said, to assert rights they claim in the Salt Creek Field, were settled by the agreement which Sinclair had made with them in the name of the Mammoth Oil Corp. The Sinclair interests wanted to clear up all dispute of title, he said, in connection with the granting to them by Fall of the Teapot Dome lease. Sinclair had testified that he expended in this connection about $1,000,000.

Bonfils said E. L. Doheny while interested in the Stack claims, estimated that "Mr. Stack's leases with the Midwest and other companies, at lowest value, were worth $5,000,000 to $17,000,000."

Senator Walsh wanted to know what qualifications Stack had to get the lease.

"He was prominent politically and socially in Denver," was the reply. "He ran for Congress on the Democratic ticket, and had been here in Washington for some time with the Midwest crowd and I think had a good many qualifications for doing this work."

(Continued on Page 128)

PRESIDENT RESPONSIBLE TO PEOPLE, WILL PROTECT PUBLIC INTEREST

WASHINGTON, D. C., Feb. 11.—President Coolidge, in refusing to ask the resignation of Secretary Denby, as sought in the resolution adopted by the Senate, said:

"No official recognition can be given to the passage of the Senate resolution relative to their opinion concerning members of the cabinet or other officers under executive control.

"As soon as special counsel can advise me as to the legality of these leases and assemble for me the pertinent facts in the various transactions, I shall take such action as seems essential for the full protection of the public interest. I shall not hesitate to call for the resignation of any official whose conduct in this matter in any way warrants such action upon my part. The dismissal of an officer of the Government, such as is involved in this case, other than by impeachment, is exclusively an executive function. I regard this as a vital principle of our Government.

"The president is responsible to the people for his conduct relative to the retention or dismissal of public officials. I assume the responsibility and the people may be assured that as soon as I can be advised so that I may act with entire justice to all parties concerned and fully protect the public interest, I shall act.

"I do not propose to sacrifice any innocent man for my own welfare, nor do I propose to retain in office any unfit man for my own welfare. I shall try to maintain the functions of the Government unimpaired to act upon the evidence and the law as I find it, and to deal thoroughly and summarily with every kind of wrongdoing.

"In the meantime, such steps have been and are being taken as to fully protect the public interest."

SENATE COMMITTEE WHICH IS INVESTIGATING NAVAL RESERVE OIL LEASES

(c) Underwood & Underwood.

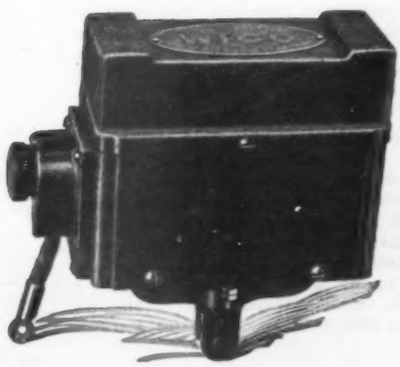
The Senate committee investigating the naval oil leases. Left to right: Senator Robert Stanfield, Senator Edwin Ladd, Senator Reed Smoot, Senator Irvine Lenroot, Senator Thomas Walsh, Senator Key Pittman, Senator Alva Adams, Back: Senator John B. Kendrick, Senator G. D. Dill, Senator Ralph Cameron.

WICO SERVICE

Parts for Wico Igniters which are not manufactured by the Wico Electric Company are being offered in the oil country.

The Wico Electric Company decline to be responsible for the performance of any of their igniters on which parts other than their own make are installed.

TYPE O. C.

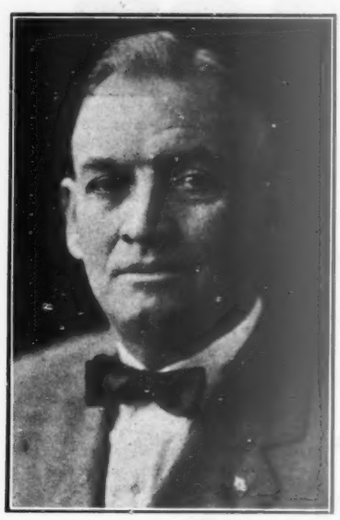


TYPE AX.

National Stores are prepared to service Wico Igniters with genuine parts.

THE NATIONAL SUPPLY COMPANIES

MEN KNOWN IN OILDOM



R. C. Snyder

There is perhaps no more widely known man in the producing end of the oil industry in the Eastern fields than R. C. Snyder, vice president and general manager of the Wood Oil Company, of Bradford, Pa. He was born at Millerstown, Pa., March 26, 1874, and received his education in various public and high schools in Pennsylvania, New York and Florida.

Immediately after his graduation from high school at the age of 17, he entered the oil business as a pumper in which capacity he remained for five years, then going to the New York fields for a couple of years. In 1898 he was made superintendent of the J. M. Tate properties at Paw City, Pa., where he remained for three years. Mr. Snyder then formed a partnership with F. D. Wood and several other well known operators and did extensive operating in the fields of Ohio and Indiana.

In 1905, the Wood Oil Company, one of the largest independent operating companies in Kentucky, was formed, F. D. Wood becoming president, and Mr. Snyder vice president and general manager. This company's operations have been confined to Kentucky, where it has met with great success, having drilled more than 500 wells, many of which opened up virgin territory. One of the most important districts opened up by Mr. Snyder was the Mount Pisgah Field in southern Wayne County. He also was one of the first to invade the Irvine Field in Estill County.

PERSONAL PARAGRAPHS

J. C. Donnell, head of the Ohio Oil Company, at Findlay, Ohio, is spending some time in California.

* * *

Roy Francis, sales manager for the Pure Oil Company, is in Florida recovering from an attack of influenza.

* * *

Dr. G. A. Burrell has been made secretary of the petroleum division of the American Chemical Society, with headquarters at Pittsburgh, Pa.

* * *

H. L. Clears of the Walworth Manufacturing Company, of Kewanee, Ill., has been located at Casper, Wyo., as representative of the Walworth line of pipe supplies. Mr. Clears will be with the Frick-Reid Supply Company at Casper, Wyo., and will cover the territory from this point.

A. G. Dana of Cheyenne, Wyo., in charge of operations of the Kasoming Oil Company, was in Casper, Wyo., last week, accompanied by his wife.

* * *

W. L. Childs, sales manager of the Boykin Machinery & Supply Company, Beaumont, Tex., is making a trip through the North Central Texas fields.

* * *

H. C. Pearson, in charge of Kentucky and Tennessee for the Ohio Fuel Oil Company, is in Bowling Green, Ky., looking over his company's interests.

* * *

R. B. Whitehead, chief geologist for the Atlantic Oil Producing Company, of Dallas, Tex., spent a few days last week in the Tulsa office of the company.

* * *

J. C. Sibley, Jr., of Franklin, Pa., was in Bowling-Green, Ky., for a few days' stay. Mr. Sibley is one of the largest individual lease holders in this section.

* * *

J. H. Nicholson, vice president of the National Tube Company, looked over the Coastal pools while en route to his home in Pittsburgh, Pa., from California.

* * *

Walter G. Willard, for several months field secretary of the American Oil Men's Association, Chicago, has resigned to enter business for himself in an Eastern city.

* * *

W. E. Wrather, consulting geologist of Fort Worth, Tex., who is spending the winter with his family in California, returned to Dallas, Tex., on business last week.

* * *

Joseph B. Mudd, sales manager for the Marland Refining Company in the Chicago territory, has been spending the week in visiting business acquaintances in the Central States.

* * *

John D. Reynolds, secretary of the American Oil Men's Association, attended the meeting of the South Dakota Independent Oil Jobbers' Association, at Mitchell, January 29-30.

* * *

S. S. Wickett of Chicago, president of the Dixie Oil Company, and S. S. Price, of Tulsa, Okla., vice president of the company. are making an extended tour through the Texas fields.

* * *

W. H. Gaither, district manager for the National Transit Pump & Machine Company, with offices in Houston, Tex., has returned from a business trip to Shreveport, La., and Beaumont, Tex.

* * *

James C. Shull, formerly of the purchasing department of the Empire companies, Bartlesville, Okla., has been transferred to the securities department of Henry L. Doherty & Company.

* * *

H. Abrahamson, of Denver, Colo., geologist, with the Southwestern Petroleum Company, has been at Garrison, Tex., watching developments on the company's well 2½ miles north of that town.

* * *

C. J. Wrightsman, president of the Wrightsman Oil Corporation, Tulsa, made a business trip to New York last week. J. F. Darby and D. C. Bothwell, Tulsa oil producers, were also in Gotham last week.

* * *

Roscoe C. Brown, formerly with the Hope Natural Gas Company, located at Clarksburg, W. Va., has been appointed general superintendent of the River Gas Company, with headquarters at Marietta, Ohio.

* * *

William Brown has resigned as secretary-treasurer of the Davis & Younger Oil Company of Oklahoma City and is to leave soon with his family for Jacksonville, Fla., where they will make their home.

* * *

J. T. Long, district manager for the Bridgeport Machine Company, in southeastern Oklahoma and Texas, spent some time in Stroud, Okla., recently, where the company contemplates opening a branch store.

C. M. Murray, vice president of the Murray Tool & Supply Company, accompanied by H. O. Flint, special representative for the Fairbanks Company, of New York, attended a special conference in St. Louis, Mo., recently.

* * *

W. H. Fink of Fort Worth, Tex., is in Casper, Wyo., looking over the local oil situation with regard to the drilling of wells the coming season. Mr. Fink is a contractor and may bring tools from the Mid-Continent fields to drill in Wyoming.

* * *

C. P. Balsinger, O. M. Mosser and H. J. Little, all of Oil City, Pa., stockholders of the South Penn Oil Company, paid a visit to the Salt Creek Field recently, inspecting the company's gasoline plants there.

* * *

T. A. Dines, president of the Midwest Refining Company, H. C. Bretelsneider, vice president, and H. A. Champion, president of the Wyoming Oil Purchasing Company, were in Casper, Wyo., from Denver last week, looking over the business of the Midwest here.

* * *

Michael A. Spellacy, a pioneer in the Mexican and California fields, is in New York after a trip through the Central American countries looking over prospective oil fields. Mr. Spellacy has made several trips to Colombia and other Central American countries during the past four years.

* * *

Newton W. Emmens, petroleum engineer and general superintendent of British Petroleums (Ltd.) of Vancouver, B. C., was in Tulsa during the past week visiting equipment concerns with a view of arranging for certain supplies and equipment for his firm's operations in Alberta, Canada.

* * *

F. E. McMahon, formerly vice president of the Sapulpa Refining Company, has joined the sales organization of the Acme Petroleum Company, with headquarters in Chicago. H. W. Johnson, formerly of the American Refining Company, of Wichita Falls, Texas, has also joined the Acme staff as assistant manager of the Dallas office.

* * *

D. J. Moran, manager of the production department of The Texas Company, with Houston headquarters, is in New York in conference with members of the executive committee. J. C. McCue, assistant manager, with Fort Worth headquarters, is in charge of the Houston office during Mr. Moran's absence.

* * *

Changes have been ordered in the Casper, Wyo., office of the Kasoming Oil Company. The purchasing department is to be moved to Cheyenne and this will take Purchasing Agent J. S. Blair and Assistant Purchasing Agent H. A. Young from Casper. At the same time, E. C. Skinner, Jr., of the Producers & Refiners purchasing department will also leave the Casper office of that firm to take up similar duties in the Parco's Cheyenne office.

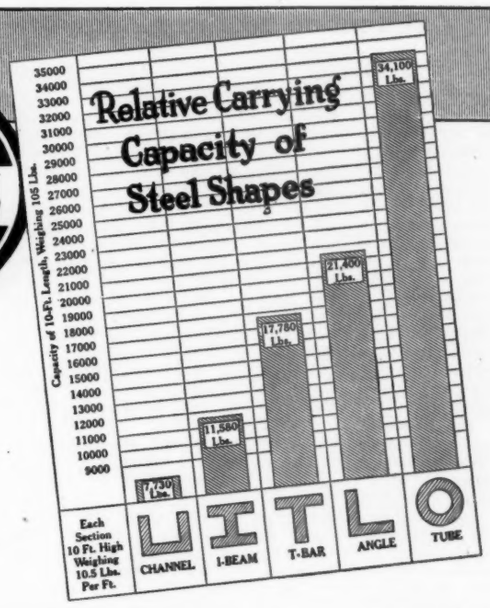
* * *

Al. H. Ricker, former trust officer of the First National Bank of Cheyenne, Wyo., has resigned from that position to take up the duties of vice president of the Aero Oil Products Company. This firm distributes gasoline and oil through a system of warehouses and filling stations in southern Wyoming and Nebraska, and Leslie A. Miller is president. Mr. Miller was formerly at Casper, Wyo., in the oil business and later was Collector of Internal Revenue at Cheyenne, Wyo., when the Aero Products Company was formed.

* * *

John A. Geismar, assistant general manager of the National Supply Company, who makes his headquarters at Toledo, Ohio, with O. T. Dawson, district manager of the company for the Midwest territory, were making a survey of the Mid-Continent area during the past week, viewing conditions and determining the future needs of that section of the oil country. Mr. Geismar has been associated with the National Supply Company for more than 25 years and is regarded as one of the best versed men in oil field conditions in the United States.

MOORE TUBULAR STEEL DERRICKS



The Strength of the Tubular Derrick

WHILE the I-shape is the strongest structural section that can be used as a beam, the pipe or tube is by far the strongest section that can be used as a column to carry compressive loads.

Engineers generally figure that the tube is from two to three times stronger than most other sections when used as a column. This is one reason why the MOORE tubular derrick met with almost instant success when, about 17 years ago, it made its first appearance in the petroleum fields. It was light and strong. It was easy to move and erect. And it stood up where other derricks failed. One feature which appealed to field men was that a leg, girt or brace, if lost or destroyed, could be instantly replaced with ordinary pipe, a material available around any derrick.

The chart above tells the story more eloquently than mere words. It reminds you forcibly of the fact that no matter how well a derrick may be built, no matter how much skill and care may be lavished upon its design, fabrication and erection, unless it is of tubular design, it must of necessity fall much short of being as strong as it might have been.

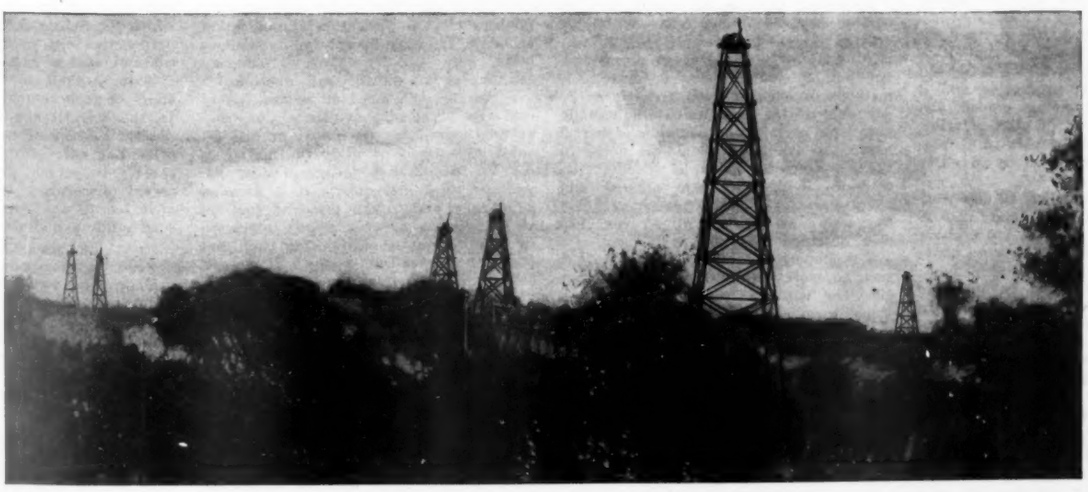
LEE C. MOORE & COMPANY, Inc., Pittsburgh, Pa.

ESTABLISHED 1907

CASPER, WYO. Midwest Building | DALLAS, TEXAS Magnolia Building | TULSA, OKLA. Atlas Life Building | SHREVEPORT, LA. 824 Prospect Avenue | PARKERSBURG, W.VA. Union Trust Building

California Representatives: BUCK & STODDARD

SAN FRANCISCO—485 California Street | LOS ANGELES—3354 E. Slauson Avenue; Box 720, Arcade Station



Tests and Specifications For Road Oil

Increasing Demand Through Highway Expansion Directing Attention to the Composition and Manufacture of Product

By Ralph T. Baker

CHICAGO, Feb. 11.—With the approach of spring months, refiners and road oil specialists are beginning to look after this branch of the petroleum marketing business with renewed interest. Already two counties in Illinois have let contracts for road oil which will amount to more than 1,000,000 gallons on each contract during the summer of 1924. From all sides city, county and State authorities are sending out inquiries for road oil prices, with the prospect that the oil industry will be called upon to supply greater quantities of this material during 1924 than ever before.

For several years road oil has shown an increased demand, along with the great amount of paving and improved road building reported from all sections of the United States. Many communities, faced with the necessity for better roads, have taken stock of their finances and found that construction of hard surfaced highways was out of the question at that time. The logical conclusion in a number of instances resulted in the grading of the dirt roads, installation of bridges and culverts and a systematic oiling of the main lines of traffic.

Demand Increasing

Other communities spent large sums for hard surfaced roads and graded and oiled the feeder highways. At first glance it would appear that the tremendous strides made in hard-surfacing the roads of the United States would gradually decrease the demand for road oil. The contrary has been the case in actual practice. The people of the United States want better roads. If they cannot have hard-surfaced highways, they are willing to make the first step in grading and oiling the roads, hoping to replace these improved highways with a system of hard-surfaced roads in the future.

H. J. Gillum, president of the Asphalt Sales Corp., Chicago, has had 26 years of experience in selling asphalt and road oil for the leading manufacturers and distributors of road surfacing material in the United States. He declares that the coming years will witness a growing demand for asphalt and road oil in all parts of the nation.

Mr. Gillum has found the demand for road oil based on the facts that it is used as a binder for surfacing materials, it is used as a dust preventive and it is used for waterproofing graded dirt highways. Something of the development of the road oil business in Illinois is seen in the figures given by Mr. Gillum as follows:

"In 1915, the State of Illinois consumed between 10,000,000 and 12,000,000 gallons of road oil. In 1918, about 20,000,000 gallons of road oil were used; in 1920, users took 30,000,000 gallons; in 1922, about 60,000,000 gallons, and we expect figures for 1923 to show an even greater percentage of increase. Several counties of the State consume from 1,000,000 to 2,500,000 gallons annually. What is true of Illinois is true also of other States.

Making Road Oil

"During recent years refiners have turned from the manufacture of fuel oil to the making of road oil. The Mid-Continent plants, for instance, are now making 32-36 gravity gas oil and 18-22 gravity road oil out of the stuff which they formerly sold at 24-26 gravity fuel oil. The increased profits from the use of gas oil in cracking plants which show a larger gasoline output and the greater profits from the sale of road oil also has been the deciding factor in persuading many refiners to make the change.

"The marketing of road oil has never been a part of the work of the average refiner," Mr. Gillum continued. "A few notable exceptions to this rule are found, however. The reason for the presence of the fuel oil specialists in the market is found in the fact that the road oil salesman is forced to meet widely varying specifications often arbitrary in character and many of the purchasers require a bond for the performance of the contract.

"As a result, the average refiner, busied about the other petroleum products, which he puts out in larger quantities, is willing to turn over his road oil output to another concern which can afford to put in the time necessary to market it. There are no set national specifications for road oil. City, county and State engineers have widely varying rules regarding the road oil to be used. Some have one particular idea which is embodied in their specifications and which may be met with difficulty. Others have other ideas regarding the characteristics of the material to be used. Specifications often are drawn up to admit a certain road oil and exclude all others.

"Bonds to insure performance of the contract, including the placing of the road oil at a specified point on time, have caused the refiners to feel even less kindly toward the consuming public. Road oil specialists are prepared for this and see that they have a sufficient supply rolling to the required points at all times."

Growth of Industry

In tracing the importance of the present road oil and asphalt business to the oil industry, Mr. Gillum gave an interesting history of the events leading up to the use of Mid-Continent asphaltic still bottoms and combination and even paraffin residuum as road oil. He told of the discovery of Lake Trinidad and the later discovery of Lake Bermudez, a large lake of asphalt in Venezuela. Prior to these discoveries, asphalt rock, with a 9 to 20 per cent asphaltic content, had been used for paving. This was shipped from Sicily. Discovery of the Trinidad asphalt with 54.45 per cent asphaltic content, proved an incentive to renewed paving enterprises in the larger eastern cities.

The Trinidad asphalt was mined by use of steam shovels, which scooped the stuff from the edge of the lake. Holes made by the shovels filled up within 24 hours, Mr. Gillum declared. Impurities in the nature of lava dust, and other inorganic as well as organic materials were taken from the Trinidad and Venezuelan asphalts, which were mixed with mineral oils to facilitate shipping.

A few years later, the production of heavy California oil turned the attention of road builders to the possibilities of the still bottoms for that State for use in place of the South American importations. The fact that some of the California stuff was cracked and burned by refiners gave some dissatisfaction in its use at the start. The possibilities were seen, however, and with the discovery of rock asphalt in more available portions of the United States and the growth in the use of residuums from the heavier Gulf Coast crude, the use of asphaltic binders was given considerable impetus.

Mexican Asphalt

Exploitation of Mexican asphalt by The Texas Co., which started mixing the heavier Mexican oils with semi-asphaltic residuums from Coastal crude, marked an additional stepping stone in paving work. This work grew to such proportions, that it has amounted to nearly 90 per cent of the asphalt paving and roofing business, during the few years up to and including 1920, according to Mr. Gillum. At the present time, a very large part of the asphalt used in the central States comes from Mexico, by way of the Coastal States. Much road oil also originates in these sections.

Mr. Gillum declared that the outstanding difference between the pure asphalt, used in road-making and the average road oil was merely a matter of consistency and asphaltic content. Road oil may be called a heavy fuel oil. In most cases it is the residual matter from either paraffin, combination or asphaltic base crude distillation. Numerous refiners are manufacturing this product. Pure asphalt, however, differs from road oil in the matter of consistency as well as asphaltic content. Asphalt from crude oil is a product of additional distillation of road oil. It becomes solid at ordinary temperatures, and is heated to load in tank cars and must be heated to unload. Most road oil, however, is liquid at ordinary temperatures.

Few plants in the United States are making pure asphalt. Most of the asphalt found in lakes and seepages is contaminated with refuse and impurities to a greater or less extent. The pure stuff is the product of preparation. The lakes of asphalt are formed as the result of large seepages of asphaltic base oil, from which the lighter portions of the oil have been evaporated, leaving the asphalt base contaminated with impurities.

Some asphalt is found in the interstices of rock containers, as is crude oil. In this case it can be mined. The asphaltic content of the rock, however, is often not sufficient to warrant this expense. In several parts of the country, recent discoveries of asphalt in rock have led to the development of a good road-building material.

American Residuums

Prior to the introduction of Mexican asphalt oils, residuums from Kansas, Oklahoma and Texas oils furnished the asphalt required for road work. The yield was comparatively small, however, and considerable relief was afforded the intensive development which followed the beginning of extensive importation of the Mexican asphalt and asphalt oils.

The salient tests to which any degree of importance is attached in connection with asphaltic road materials, and which have a real bearing on the quality of material in service are the following: Pentration, melting point, solubility in carbon disulphide, bitumen soluble in carbon tetrachloride, loss at 325 degrees Fahrenheit, penetration of the residue, specific gravity and ductility.

In the matter of penetration, a mate-

(Continued on Page 105)

ADVANTAGES OF OIL BURNER HEAT SEEN BY STANDARD OF NEW JERSEY

(From The Lamp)

It is not possible to talk about the advantages of burning oil without making comparisons with previous experience with coal. For instance, it has been learned that fuel oil, pound for pound, contains 60 per cent more heat units (B.T.U.) than the average run of coal.

Moreover, fuel oil can easily be fired so that between 70 per cent and 80 per cent of its heat units are utilized in generating useful heat. Due to uneconomical and in many cases uncontrollable methods of burning coal, as little as 35 per cent of the heat units are actually made use of in the production of useful heat. An exception should be noted in the case of some modern power plants equipped with automatic stokers and operating in the best engineering practice where as high as 70 per cent has been obtained from coal.

The importance of using a fuel that goes to work immedately at its fullest efficiency with the turn of a valve and shuts down completely when heat is no longer required has been mentioned. The contrast in this method of heating and the necessity of keeping a coal fire up 24 hours of the day has been particularly evidenced this year because of the weeks of unseasonably mild weather, weather which has made big savings in oil burning heating plants but very little where coal is used.

Convenience and Cost

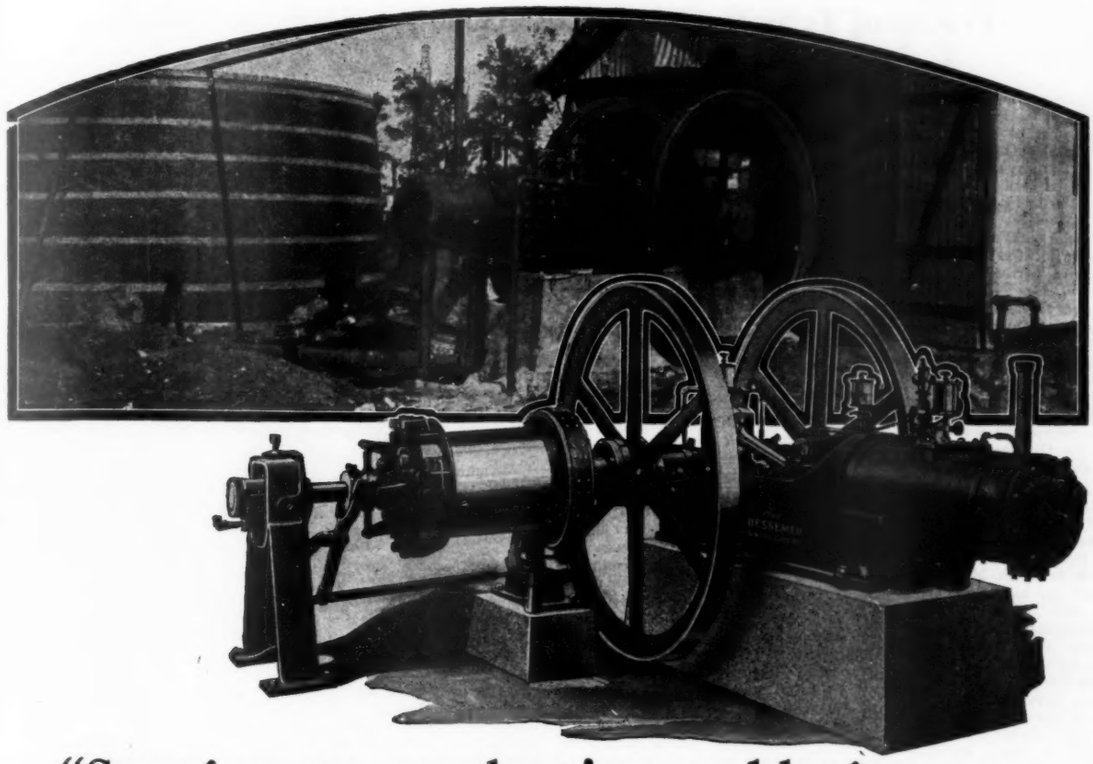
A fair estimate of the cost of a good domestic oil burning device, including a storage tank of adequate capacity, is $800. At today's prices, distillate fuel oil equivalent to a ton of coal costs $10.50 as against anthracite coal at $14 per ton.

This comparison is made on the single matter of heat supplied and does not give oil credit for any of the advantages of continuous and uniform heat automatically controlled to the exact degree of temperature desired nor does it take into consideration the cost of ash removal or furnace attention. Of course, in many families all the work except removal of ashes is performed by the family without outside help and it is hard to place an estimate on the cost of such labor, which may be the equivalent of $4 per ton of coal fired or as high as $10.

Notwithstanding the apparent and decided advantages of oil in the matter of cost it is not wise to accept that advantage as a prerequisite to a decision to change over. The price of fuel oil is not always or of necessity regulated by the current quotation for coal, but is directly dependent on the amount and source of production of crude petroleum and the requirements of consumption of higher priced products than fuel oil. In other words, the demand for gasoline or kerosene can affect the price of fuel oil without regard to the market for coal. For that reason the installation of oil burning devices should be considered primarily from the standpoint of the value to the home owner of freedom from a dozen annoyances to which he has submitted in past years with the recurrence of each winter. He should weigh the value of having a furnace almost entirely automatic in performance, almost 100 per cent in cleanliness and in uniformity of the heat service rendered him.

Where are the nerves of this new genii? Upstairs in one of the living

(Continued on Page 108)



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(Montana Prospecting)

What Wildcatter Has Done in Montana

Belief Exists the State's Opportunities of Becoming Great Oil Producing Territory Are Not As Good As Formerly Thought

Special Correspondence

BILLINGS, Mont., Feb. 11.—In the first article on the results of drilling in Montana, published in The Oil and Gas Journal of February 7, only the defined fields were considered in detail, together with the pipe line and refinery operations in the State.

The following article will be devoted entirely to what the wildcatter has done in the State covering a period of years and up to the present time. It covers the operations in every county in the State of which the correspondent could find a record and it is believed that no important structure has been overlooked in the review.

In the past two years many Montana structures have been tested some of them by well-financed companies like the Ohio Oil Co., the Absaroka Oil Development Co., Mid Northern Oil Co., the Ed Durham interests, the Gypsy Oil Co. and others as well as by many smaller companies. There are over 100 wildcat wells in the State that have not yet been completed, and as a result of which the number of producing fields in Montana may be increased, but the big confidence shown in Montana two years ago and the even greater confidence felt a year ago is not in evidence now.

The conservatives feel that Montana's opportunities of becoming a great oil producing State have been greatly lessened by the results of last year's drilling operations. They will admit, however, that here and there in the State are favorable or "semifavorable" places that have either not been tested at all or have not been adequately tested, and that there are other localities where the showings warrant further development. In this article the writer will make mention of these still uncondemned localities.

Ten Geological Divisions

There are 10 geological divisions in Montana, and in discussing them we will divide them into units starting in the extreme eastern part of the State, where, as one district, may be grouped Sheridan County, Daniels County west of Range 45, Roosevelt, Richland, McCone, Dawson, Wibaux, Prairie, Fallon, Custer, Powder River and Carter Counties. Of these the first five named and Custer, Powder River and most of Prairie County, need not be considered because possibly producing sands are presumed to be below a practical drilling depth and no test has been made in any of them that has gone deep enough to give knowledge of interesting horizons.

Carter County has had two tests. The Frantz Oil Corp. drilled to 1,800 feet in Section 8-9s-61e (Seven Mile structure), testing the Lakota sand and getting a water well. The Arkansas Natural Gas Co. drilled in Section 19-3n-59e (Medicine Rock Dome) to 3,475 feet and is believed to have gone 1,100 feet into the Colorado. It got a hole full of salt water.

The Cedar Creek anticline traverses portions of Fallon, Wibaux and Dawson Counties and the extreme eastern part of Prairie County. Its axis enters Montana in Township 4n-61e, proceeding northwesterly, ending in Township 15n-54e. Upon this anticline are several domes all of which have been tested through the Judith sand, found at 800 feet. Gas was found in each of the tests. The wells of 1,000,000 feet or more were used, the others plugged. A 10,000,000-foot gasser in Section 22-10n-53e, Fallon County, had a rock pressure of 500 pounds. It was the best in the lot. Some gas was found in the Eagle sand at 1,200 feet. In Section 20-14n-55e, Dawson County, the Midwest Oil Co. drilled a rotary test to 2,710 feet. It was not deep enough to test anything below the Eagle sand.

Only one test penetrated the Dakota sand. The Montana-Yellowstone Oil Co. drilled this well with a rotary, and while the owners say no log was kept, what purports to be one was made by some one and it shows that the Dakota is at 3,920 feet. The hole was completed at 4,110 feet in the top of the Kootenai, but it did not test any of the sands. The report made to the government mentioned water in the Dakota. The location was among the gas wells on the Gate City Dome.

The Absaroka Oil Development Co. (Northern Pacific Railroad) has a fishing job at 3,680 feet in Section 24-4n-61e, Fallon County. Eight-inch pipe was landed at 3,650 feet but when it was lifted to underream it parted in two places. The bottom of the hole is slightly below the Big Muddy sand in which salt water was found. The company planned a 5,000-foot test. If it is possible to accomplish this it will thoroughly test the Dakota and Kootenai horizons. Notwithstanding geologists say that a 5,000-foot failure here would not condemn allied structures, it is quite probable the Absaroka test will make or mar the reputation of that area if it is carried down to the 5,000-foot level.

The second district under consideration may be made up of the counties of Phillips, Valley, Daniels County west of Range 45. Garfield County east of Range 33 and Rosebud and Treasure Counties. Here we find the Porcupine and Bowdoins as the most important of geological features, with numerous smaller domes. Those that looked best to the geologists have been tested.

Valley County has not been given a fair test. One hole was drilled to 1,200 feet and another to 560 feet.

Nothing has been done in western Daniels.

Garfield County has had one test. The Absaroka Oil Development Co., in Section 10-13n-34e-, drilled the Quadrant or Pennsylvania formation, going to 3,810 feet. The location was on the Alice Dome, one of the best looking structures in the area, although a small one. The Absaroka Company also drilled on the Ingomar Dome, the location having been in Section 26 9n-35e, completing the hole in the Kootenai at 3,198 feet, thus testing also the Colorado and the Dakota sands.

Six Tests on Porcupine Dome

Six wells were drilled on the Porcupine Dome, which lies in Townships 9, 10, 11 and 12n. and Ranges 38, 39 and 40e, in Rosebud County. Four wells were drilled into the Kootenai and completed below 1,800 feet. One tested the Ellis and quit at 2,000 feet and another proved nothing but the Colorado, stopping at 2,100 feet. Some gas was found in the upper sands, but not enough to furnish fuel for drilling. The Dakota and Kootenai carried sulphur water and the Ellis sand contained water. Showings of heavy oil were apparent in the top of the Kootenai sand. Although below the deepest level reached by any of these tests lies the Quadrant, which usually carries the Embar, Tensleep and Amsden sands, deeper tests were not considered justifiable as naught but oil that could be utilized as fuel or road oil might reasonably be expected, and not in large volume.

The Bowdoin Dome is found in Phillips and eastern Valley Counties with its approximate center in Township 32n, Range 33e, extending in all directions for 18 or 20 miles. It is a flat structure, with low dips, averaging about 17 feet to the mile. It resembles the Sweetgrass arch in a general way. Six tests were made on this structure and nothing encouraging developed except gas in the shallow sands. The Bowdoin Oil & Gas Co.'s No. 2 in Section 35-32n-32e had gas showings at 240, 710, 920 and 2,270 feet and oil showings at 2,338 and 2,955 feet. In the opinion of the writer none of these showings below 700 feet is worth while. At 3,116 feet water was coming up over the casing and deeper drilling increased the volume. The hole was abandoned at 3,200 feet with all the sands from Eagle to Madison excepting Quadrant tested. The Madison lime is believed to lie at 3,300 feet. Other holes were drilled in which flowing water wells developed in the Kootenai sand. The Homestake's test in Section 2-32n-33e has an artesian flow at 2,475 feet, 100 feet in the red beds. This was a promising district with good structures but it was given a thorough test and found to be a failure.

Oil and Gas Here

The counties of Big Horn, Yellowstone, Carbon, Stillwater east of Range 19e and south of the base line may be considered as a district. The north end of the Elk Basin Field of Wyoming extends into Carbon County, Montana. The Soap Creek Field lies in Big Horn County. It is a rugged district generally and is faulted. All the sands from the lower Colorado to the Madison, including those of the Quadrant, usually exist on the structures here. Production is from the Wall Creek sands, the Colorado, the Dakota and the Quadrant sands. The production in the Quadrant is low in gasoline and in gravity; Colorado sand production is light in gravity with no sulphur and of good gasoline content. The Colorado also produces gas.

The Absaroka Oil Development Co. drilled in Section 21-9s-40e, Big Horn County, but failed to test below the Colorado shales. It was a failure. The Producers & Refiners Corp. made a test in Section 24-9s-34e, Big Horn County. It stopped in the lower Chugwater or upper Quadrant. It had a light show of oil and gas at 2,050 feet and is flowing water at 2,480 feet. The Mid Northern Oil Co. drilled in Section 3-8s-33e and in Section 14-9s-33e, Big Horn County on the upper and lower Lodge Grass Domes. The first well stopped at 596 feet and the other at 467 feet, both finding water in the Madison.

A 2,600-foot hole was drilled on the Rotten Grass Dome in Section 28-7s-33e. It stopped possibly in the Chugwater and did not test the Soap Creek producing sands. The test was made by the Western States Oil & Land Co., which is familiar with conditions thereabouts, so the test may be taken as a fair one and the structure concluded to be barren. The Mid Northern Oil Co. drilled a diamond drill test in Section 28-3s-31e, stopping in the Madison lime at 2,772 feet, where it developed flowing water.

Two tests were made on the Beauvais Creek structure in Township 4s, Ranges 29 and 30e, Yellowstone-Big Horn Counties. Both got water in the Madison. A

(Continued on Page 106)

MANY ADVANTAGES OF PETROLEUM AS RAILROAD FUEL SET FORTH

The advantages of oil as a fuel for locomotives was the subject of a paper read by J. N. Clark, chief fuel supervisor of the Southern Pacific Railroad, before the recent convention of the Traveling Engineers' Association at Chicago. According to Mr. Clark's report, a total of 44,752,344 bbls. of fuel oil were consumed by locomotives in the United States on the principal railroads in 1922, which showed a gain of more than 4,000,000 bbls. over 1921. The largest consumption was shown in the middle western and southwestern district, totaling 21,512,851 bbls. in 1922. The northwestern district totaled 5,783,514; southern district, 916,951 bbls.; eastern district, 134,763 bbls. Of the total, 32,000,000 bbls. were domestic oil and 12,000,000 bbls. were imported from Mexico.

The fuel oil in general use is topped crude petroleum from which the lighter and more volatile constituents have been removed by distillation, leaving a heavier and safer oil for fuel. Fuel oil, unlike coal, varies very little in heat value, averaging 18,750 B. T. U. per pound.

Oil has a lighter heat value per pound than coal. For the same number of heat units fuel oil weighs approximately 30 per cent less than coal and only occupies about 50 per cent as much space. Some of the modern oil burning locomotives have an oil capacity equivalent to more than 40 tons of coal. In passenger service these locomotives can haul a 750-ton train over 650 miles without fueling en route.

Considering coal of 11,500 B. T. U. per pound and oil of 18,500 B. T. U., 3.70 bbls. of oil are equal to a ton of coal on a heat basis.

It is the heat content of the fuel actually utilized rather than the heat that is available in fuel that is of the most concern. In this respect the fuel oil has a decided advantage in having a higher evaporative efficiency than coal, as there is no loss to the ash pan or loss in cinders and a smaller loss in unburned gases. On an evaporative basis approximately three barrels of oil are equal to a ton of coal on the above heat values of the two fuels.

A check of fuel consumption under operating conditions showed that 3.32 bbls. of oil were equal to one ton of coal 12.500 B. T. U. and 2.68 bbls. equal to one ton of coal, 9,810 B. T. U., the heat value of the oil being 18,500 B. T. U. These figures take into account the various losses.

All oil-burning locomotives were primarily designed to burn coal, and notwithstanding the high boiler efficiencies attained with the present oil-burning locomotives, some authorities believe that higher efficiency could be attained if the oil-burning locomotives were especially designed to burn oil.

In the combustion of oil the particles of oil are on their way to the flues before they are even partially consumed. If these particles were attached to a bed of coals a supply of air could easily complete their combustion, but with oil a mixture of air and the ignition must

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PARKERSBURG STEEL BAND WHEELS

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Barreling Branch Cuts Transportation

Shipping Semi-Finished Products to Central Points for Compounding and Distribution Imitates Auto Assembling Plant

By Ralph T. Baker

CHICAGO, Feb. 11.—Merchandisers in practically every line of business have recognized the high cost of transportation as one of the chief factors in throttling expansion and curtailing development of new trade territory. Many manufacturers have overcome the burden of high freight rates on finished products by establishing branch factories at strategic points over the country. Partially completed articles are dispatched in large quantities from the home factory to these branch factories where final operations are completed and distribution of the merchandise over the surrounding territory is accomplished at a much lower transportation cost.

The development of the Ford Motor Co. during recent years can be pointed to as a good example of this situation. Fabricating of most of the parts of the automobile is done at Detroit, using raw materials. The semi-finished parts are then shipped in large allotments to the company's central assembly plants where these parts are put together and the finished automobile is marketed.

Other lines of business as well bear out the basic principle that considerable saving in transportation to the manufacturer and customer can be accomplished by shipping partially finished merchandise to central points for final work and distribution.

This same principle promises to be an important factor in the distribution of petroleum products in the future. It is being used already in blending and selling of motor oils and in compounding greases. One of the most conspicuous examples of such a plan is found in the Chicago trade territory, where the Marland Refining Co. of Ponca City, Okla., has built up an enviable trade.

Method of Operation

The barreling and compounding plant of the Moorhead Oil Co., at Hammond, Ind., was taken over by the Marland Refining Co. about two years ago. Mr H. J. Kennedy, from the Marland organization at Ponca City, Okla., was placed in charge. The method of operation employed by this organization in making and distributing motor oils and greases is interesting.

Stocks of various grades of neutrals and bright stocks from the Marland refinery are received at the Hammond plant in tank car lots. These tanks are unloaded, the lubricants being pumped into the proper one of nine 15,000-gallon vertical tanks housed in a heated room. Three larger outside auxiliary tanks are used for storage.

The different grades of motor oils are blended from neutrals and bright stocks. In passing it might not be amiss to point out that the neutrals are the lighter portions of the lubricants, distilled over by heating the crude. There are several grades of neutrals produced by refining the different cuts of wax distillate, as it is called, vaporized and condensed in the distillation process. The refining process of any portion of wax distillate includes the filtering to secure color and to remove impurities. The finished product is termed a neutral.

The nonviscous neutrals include various cuts from the thin spindle oils, up to those with a viscosity of about 150. Viscous neutrals are heavier, those from a paraffin base oil going as high as 300 vis., while those from asphalt base crude have an even higher viscosity, due to the desire of the refiner to get all the lubricant possible out of his crude, hence the application of greater amount of heat. The still bottoms from the asphalt base crude have no further lubricating value, but the bottoms from the paraffin base crude have much valuable stuff after the lighter lubricants are driven over.

These ultimate bottoms from paraffin crude, as explained by Mr. Kennedy, are the residues left in the lub still, fitted with spider steam coils, which inject steam into the still during the process of vaporizing the wax distillates. The purpose of the steam is to exclude all air or gases from the void of the still not filled with oil, thus preventing deterioration of the contents through oxidation during the operation.

Produces Bright Stocks

This cylinder stock, when subjected to additional refining, produces the bright stocks which form an essential part of many motor oils. These oils are difficult to purify and may become the source of considerable annoyance to the motorist if not refined properly.

There are two ways for refining bright stocks. One is by the acid treatment, where the stock is subjected to several acid baths, each removing impurities and improving color in turn. The other, advocated by the Marland Refining Co., recognizes the value of an initial treatment with acid but stresses the importance of continued filtration through fuller's earth to purify the lubricant and give it proper color. Filtering is expensive, but color and purity are obtained as the result of this process. Thus if a buyer wants a good oil and is not particular concerning color, he can be furnished with a lubricant of that grade, while a competitor desiring the best possible lubricant, may get the same oil basically, which has been subjected to additional treating and filtering, or both, to give it a clearer color and a smaller impurity content.

Sulphuric acid is used in treating the stocks to remove impurities. This leaves the oil tainted with acid. An alkaline solution is then used to neutralize the acid, and most of the resulting salts or "sulpho compounds" are washed from the oil with water. Excessive use of acid and alkali will result in excessive amounts of salts which cannot be washed out entirely because some of them are not soluble in water. When the oil is subjected to its rigid test, namely the high heat of a combustion chamber, these sulpho compounds, present in the oil, will be liberated as acid, which in turn attacks the oil, breaking it down, with large deposits of sediment in the crankcase of the engine. Valves will gum, and carbon will be deposited more freely. A light acid treatment and intensified filtration generally will result in fewer sulpho compounds in the lubricant, Mr. Kennedy says.

Removal of Wax

An important item in perfecting bright stocks is the removal of the amorphous wax, always present in the paraffin crude. A portion of this wax is crystallized by the process of distilling off the neutrals and is pressed out at that time. The amorphous wax, or petrolatum, has a much higher boiling point and may be removed by cold settling or centrifuging.

It is in the purified state that the neutrals and bright stocks are received at the Hammond plant. The lighter motor oils, as sold by the Marland organization, are spefic cuts of the neutrals. This includes a special Ford oil and a medium grade also. The heavy motor oil is a blend of a neutral and a bright stock. Extra heavy motor oil has a higher percentage of bright stock and a smaller proportion of neutral.

In addition to motor oils, a blending plant also carries a refined cylinder stock for steam engines, consisting of a combination of a bright stock with acidless tallow. But the major portion of the business is concerned with the blending of motor oils. Cheaper grades of bright stocks also are used in blending tractor oils and engine and bearing oils.

Individual pumps and connections afford clean lines in carrying the oil from the stock tanks to the mixing kettles of the blending plant. The pumps at the Hammond plant are the Blackmer rotary type. The kettles are steel, with cone-shaped bottoms. They are about 12-barrel capacity. The manifolded lines from the different tanks are ranged over the kettles and are reached conveniently from platforms built up close to the top of the kettles. Valves and outlet lines control the amount of oil admitted to each kettle. They are operated by hand from a platform built around the kettles near the rims.

Steam coils are utilized in the kettles during the mixing process. The heat is said to be very beneficial in securing the proper combination of the oils and it serves the additional purpose of driving off the moisture from the oil when combined with agitation secured from air jets which perfect the mixture of the lubricant. Outlet from each kettle is afforded in the package room, for canned goods, which adjoins, and the truck loading station where local deliveries are made.

Extends Market

By use of the barreling and compounding plant, the Marland Refining Co. has been enabled to enter the Central States as a competitor in the market with refiners in that territory. Freight rates on barrels and crates of finished and canned motor oils would prohibit shipment into the territory on a competitive basis otherwise. The combined use of carload shipments of oils from the refinery and the use of the blending and compounding plants enables this concern to compete with other plants in the same section with the result that more customers are sought and more oil is sold.

The compounding of grease involves a great amount of the personal equation. It seems that good compounders often are born, not made. Much of the work is done by rule of thumb, but there are many scientific principles diligently observed as well.

As pointed out by O. B. Lloyd, of the Lloyd-Breckenridge Grease Co., also at Hammond, "Lubricating grease is the result of the saponification of animal or vegetable fat with the addition of a mineral oil. Practically all high-grade commercial greases are made from animal facts, the vegetable fats forming crusts, fading and separating from the mineral oils when heated."

The fats used in making greases at Hammond are strictly animal fats including an evil smelling "horse oil." These fats are placed in large steam-jacketed steel kettles holding about 17 barrels. The bottoms are cone shaped. A boiler furnished live steam at 80 pounds pressure during the compounding. A large platform is built around the rim of the compounding kettles. On this platform is stored the current necessities in the way of alkalis and fats. Here the operator stands and gives close observance to the grease during the making.

After the fats are weighed and placed in the kettle they are thoroughly mixed by motor driven paddle agitators which rotate during the entire operation. The alkali is then weighed to get the proper amount and added to the fats and full saponification is accomplished in about two hours. During saponification the fat

(Continued on Page 112)

OIL INDUSTRY IS DUE TO MAKE LARGE PROFITS, SAYS J. E. POGUE

By JOSEPH E. POGUE*

Author of "The Economies of Petroleum"

The petroleum industry is an exemplar of unstable equilibrium. As oil men say, "There is either a feast or a famine." Three months ago the output of crude petroleum was running far in advance of current requirements, and the prices of crude oil and gasoline were being cut below the costs of production. Today the supply of crude oil has declined to the point where overproduction no longer exists, the demand for crude oil is insistent and keenly competitive, and oil prices are being marked up sharply and in rapid succession. Why this quick reversal in form in the face of large supplies of oil in storage?

The answer to this question centers about the element of uncertainty in crude oil production. The rate of crude oil output is not subject to close control; the matter of momentum comes in to complicate the problem of balancing supply and demand. At times the momentum, or cumulative effect of past efforts, is too great and supply runs ahead of demand; overproduction results. Last year was an illustration. At other times the momentum of supply lessens, demand increases, and an undersupply results. We have to go back to the war period or look immediately ahead to find an example of this condition.

Swings of the Pendulum

Whenever the rate of increase in production lags behind the rate of increase in demand, oil men become worried about the adequacy of the oil that will be available for their individual requirements; the supplies in hand are held in the nature of reserves, and competitive efforts are put forth to gain control of the new oil coming on the market. The spectacle of a huge refinery with a supply of crude oil insufficient to run it is the nightmare of every refiner.

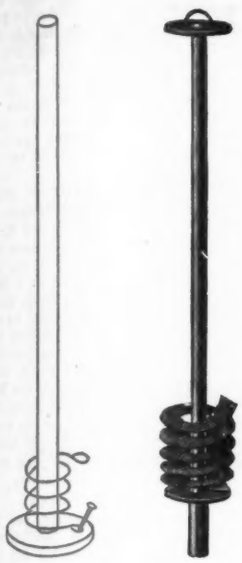
Small wonder, then, that oil prices are advancing, when a continuation of the rate of decline in production of the past two months would indicate a serious undersupply of crude oil by midsummer. It matters not that new fields may be discovered in the meantime. The individual refiner is afraid to take the chance. The price of crude oil is dictated more by the conditions that are thought to lie immediately ahead than by the circumstances of the moment.

Let us see what happened the last time the oil industry was forced to draw on crude oil stocks for any considerable period. We have to revert to the years 1916-1919 for our precedent. During that period the rate of increase in supply lagged behind the growth in demand, and it was necessary to make almost continuous withdrawals from storage. A shortage of crude oil appeared to be shaping up.

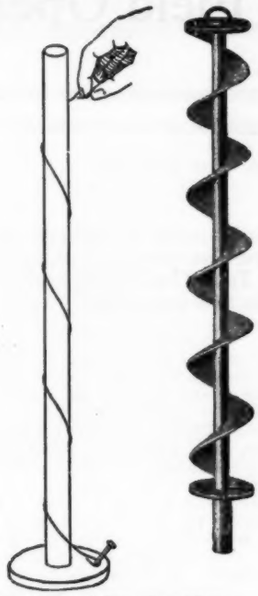
How Output Is Stimulated

How was this prospective shortage met and an adequate supply assured? The

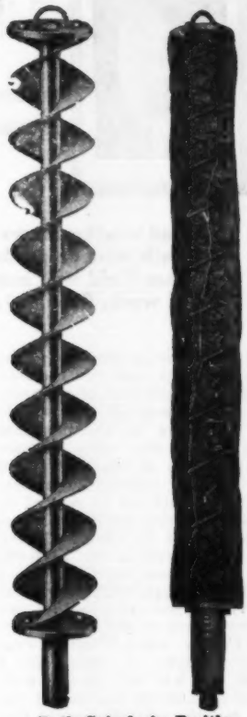
(Continued on Page 112)



One Spiral Before Elongation



One Spiral After Elongation



Both Spirals in Position

The Scientific Guiberson Bottom-Water Plug

Note the first four illustrations. They indicate how, as the spiral is elongated, it hugs the core, becoming smaller in lateral diameter. Incidentally, there is also a "winding up" motion of the spiral, as it is elongated.

When the plug is collapsed in the well, a reverse action takes place. The core stem slides downward through the bottom plate, the spirals collapse, with an "unwinding motion," and their over-all diameter increases.

It is this increase in diameter which causes the plug to take a biting, toothed grip in the walls of the well. Its grip is like that of a screw.

Investigation will indicate to you that this is the only SCIENTIFIC bottom-water plug. Its expansion is uniform throughout its length. Its compression of the oakum packing is likewise uniform. Send for our fully descriptive booklet.

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GUIBERSON

BETTER BE SAFE THAN SORRY

Oklahoma Field Operations

By C. D. Lockwood

Bad weather slows up operations over State; Majority of Burbank shutdown wells now on producing list; Hewitt deep gushers being put on pump; Graham Field well increases to 1,000-bbl class; Tulsa "backyard" pool gets best of week, flowing 1,600 bbls.; Wewoka production increases.

Most of the Oklahoma areas were quiet during the past week, and even the Burbank Field has shown signs of returning to normalcy with most of the formerly restricted wells now on the producing list. The Hewitt deep wells continue to baffle producers in that section of the State, as three gushers which went dead last week could not be revived by swabbing and are being put on the pump. The Graham Field in Carter County, produced another well in the 1,000-bbl. class, and the Bristow district of Creek County likewise brought forth a 1,000-bbl. gusher. The largest producer of the week, however, was in the Bruner Pool in Tulsa County where Charles Page and others brought in their No. 4 Bruner, SE cor. NW SE, Section 6-19-12, in sand at 2,050-60 feet and it put 1,600 bbls. into the tanks during the first 24 hours.

For the first time in several weeks, the Wewoka Field reported an increase in daily average production, the four new wells added to the field having caused a gain of 193 bbls. daily. The field's 33 producers on February 6 were making 9,209 bbls. Five wells were added to the Tonkawa Field, bringing the total number of wells in that area to 627 but they failed to completely check the decline which amounted to 240 bbls., the daily average being 38,597 bbls. The Burbank Field showed an increase of 6,097 bbls. from 14 new wells, the total daily production averaging 104,917 bbls. from 1,191 wells.

Total operations in the State registered another large gain during the week ended February 2 when there were 1,496, an increase of 54 in comparison with the previous week. On the latter date there were 72 locations, 240 rigs, 785 wells drilling, 320 wells shut down, and 79 completions. This represented a gain of 69 wells drilling and 37 completions, due largely to the Burbank Field, while there were 41 less wells shut down, 10 less rigs, and 1 less location.

Operations in Hewitt

In the Hewitt Field, the Carter Oil Co. and Southwestern Petroleum Co.'s No. 40 Noble, C SE NW NE, Section 21-4s-2w, swabbed 384 bbls., and the same companies' No. 42 Noble, SW NE NE, same section, was good for 258 bbls. on the swab. Both wells are being put on the pump. The Carter Oil Co.'s No. 20 Ward, C NE NW NE, Section 21-4s-2w, was good for 592 bbls. on the pump. The same company's No. 19 Ward, C SE SW SE, Section 16-4s-2w, was making 55 bbls. at total depth of 3,145 feet. It was to be shot.

Two of the five original gushers were still flowing. They are the Carter Oil Co. and Southwestern Petroleum Co.'s No. 41 Noble, C NW SE NE, Section 21-4s-2w, which put 2,575 bbls. into the tanks at the latest gauge, while it produced 3,180 bbls. during the previous 24 hours. The Wolverine Oil Co.'s No. 111 Dillard, C NW NW SW, Section 22-4s-2w, was the other survivor, and it made 725 bbls., according to Saturday's gauge. A new deep pay producer was added to the Hewitt Field by the Skelly Oil Co. when its No. 10 Eva Noble, in the NE SW NE, Section 21-4s-2w, offsetting to the southwest the original discovery well of the deep horizon, the Carter Oil Co.'s No. 33 Noble topped the pay at 3,024 feet and swabbed 720 bbls. The next 24 hours it swabbed 525 bbls. According to some theories, there may yet be hopes of extending the deep production in this area, as the two wells which are still flowing are south and east of the Carter's original No. 33. However, these two wells are declining rapidly.

Burbank Production

The daily average production in the Burbank Field during the week ended February 6, was as follows, by companies:

Company—	Wells	Bbls.
Carter Oil Co.	170	10,007
Comar Oil Co.	7	206
Cosden Oil & Gas Co.	68	1,537
Devonian Oil Co.	16	412
Gardner Petroleum Co.	20	756
Gypsy Oil Co.	162	16,388
Kewanee Oil & Gas Co.	12	194
Laurel Oil & Gas Co.	16	439
Lorraine Pet. Co.	15	315
Midland Oil Co.	5	130
Mid-Kansas Oil & Gas Co.	26	4,020
Peters & Oliphant	1	126
Phillips Pet. Co. and Delmar Oil Co.	3	3,579
Phillips Pet. Co.	39	7,492
Phillips Pet. Co. and Skelly Oil Co.	151	8,414
Prairie Oil & Gas Co.	90	2,104
Prod. & Ref. Corp.	28	752
Roxana Pet. Corp.	57	1,006
Simons, Moore and others	29	572
Sinclair Oil & Gas Co.	136	7,823
Skelly Oil Co.	9	2,913
Tidal-Osage Oil Co.	41	1,063
Twin State Oil Co.	8	270
Total	1,109	70,518
Kay County—		
George S. Bole	2	1,301
Carter Oil Co.	4	2,241
Comar Oil Co.	11	3,480
Cosden Oil & Gas Co.	3	1,994
Gypsy Oil Co.	7	3,764
Laurel Oil & Gas Co.	1	10
Phillips Pet. Co.	13	8,179
Mid-Kansas Oil & Gas Co.	4	1,791
Prairie Oil & Gas Co.	2	597
Pure Oil Co.	1	524
Roxana Petroleum Corp.	3	1,125
Dye, Tomlinson and others	7	1,569
Skelly Oil Co. and Phillips Pet. Co.	14	2,382
Sinclair Oil & Gas Co.	2	2,389
The Texas Co.	2	1,317
Twin State Oil Co.	7	1,736
Total	82	34,399
Total Burbank	1,191	104,917
Total last week	1,177	98,838
Difference	14	6,079

Daily average runs from the field were as follows: Gulf Pipe Line Co., 21,105 bbls.; Cosden Pipe Line Co., 6,298 bbls.; Kay County Gas Co., 5,223 bbls.; Osage Pipe Line Co., 2,773 bbls.; Oklahoma Pipe Line Co., 12,805 bbls.; Prairie Pipe Line Co., 4,870 bbls.; Sinclair Pipe Line Co., 11,465 bbls.; Moore Refining Co., 3,444 bbls.; Empire Pipe Line Co., 972 bbls.; Ozark Pipe Line Co., 3,791 bbls. Total, 72,746 bbls.

Amounts run to storage were as follows: Standish Pipe Line Co., 21-228 bbls.; Mid-Kansas Oil & Gas Co., 5,296 bbls.; Twin State Oil Co., 1,259 bbls.; George S. Bole, 1,051 bbls.; Delmar Oil Co., 1,424 bbls.; Skelly Oil Co., 1,913 bbls. Total, 32,171 bbls.

Graham Well Increases

The newest Graham Field gusher is the Twin State Oil Co.'s No. 2 Jefferson, C NE SE NW, Section 25-2s-3w, which came in more than a week ago and has been flowing steadily, increasing as it was drilled deeper, until it gauged 1,020 bbls. in 24 hours. First sand was reached at 2,419-50 feet. The second was found at 2,460 feet and the bit was still in it at 2,515 feet. Wirt Franklin's No. 5 Gallagher, C NE SW NE, Section 25-2s-3w, has been completed for 7,000,000 feet of gas in sand at 1,950-67 feet.

South of Tulsa in Tulsa County, a well drilled by O. N. West and associates, No. 1-A Pratt, NW cor. SW, Section 32-18-13, was good for 40 bbls. after a 60-quart shot in sand at 966-993 feet.

In Creek County, the Independent Oil & Gas Co. and others had a 20-bbl. well in its No. 1 McIntosh, SE cor. NW NW, Section 29-15-10, following a 60-quart shot in oil pay at 2,981-89 feet.

Shooting Helps Output

The increases in production which have raised Burbank figures rapidly since the middle of January will probably be smaller for a time at least as the shooting of a number of old producers has contributed part of the gain, and more time will be required to complete many of the remaining wells now drilling. Completions during the past week included George Bole's No. 2 Gaston, C NE SE NW, Section 4-27-5, Kay County extension, which was given a 5-quart shot in sand at 2,918-28 feet and made 400 bbls. The Cosden Oil & Gas Co.'s No. 7 Sands, NW cor. Section 10-27-5, which was good for 1,408 bbls. naturally the first 24 hours, was shot with 10 quarts in sand at 2,911-24 feet and made 800 bbls. The Carter Oil Co.'s No. 1 Clubb, SE cor. SW, Section 10-27-5, produced 800 bbls. after a 20-quart shot in sand at 3,025-45 feet. Its initial natural production was 3,126 bbls. The came company's No. 2 Clubb, C NW SW SW, same section, was good for 955 bbls. after a shot of 25 quarts in sand at 2,968-93 feet. Initial natural production of this well was 2,750 bbls. The same company's No. 12, C NE NW NE, Section 22-27-5, which made 2,600 bbls. naturally the first 24 hours, was given a shot of 15 quarts in sand at 3,041-56 feet and produced 480 bbls. The Gypsy Oil Co.'s No. 11, C NE NW NE, Section 23-27-5, was treated to a 120-quart shot in sand at 2,980-3,033 feet and was good for 780 bbls. The initial production of this well was 400 bbls." The Sinclair Oil & Gas Co.'s No. 1, SW cor. NE, Section 12-27-5, produced 500 bbls. after a shot of 30 quarts in sand at 3,006-42 feet. Natural production during the first 24 hours was 790 bbls. from oil sand at 2,986-3,036 feet. The Phillips Petroleum Co. and Skelly Oil Co.'s No. 2, C SE SW NW, Section 23-27-5, increased to 1,000 bbls. following a shot of 110 quarts in sand at 2,996-3,040 feet. The Skelly Oil Co.'s No. 3, C NE NW SW, Section 23-27-5, also increased to 425 bbls. after it was treated with 10 quarts in sand at 3,030-40 feet, and with 15 quarts in sand at 3,025-45 feet. The same company's No. 5, C SW NW SW, same section, was good for 800 bbls. after a shot of 15 quarts in sand at 2,992-3,012 feet. The Gypsy Oil Co.'s No. 11, C SW NW NW, Section 24-27-5, was shot with 30 quarts in sand at 2,982-3,012 feet and made 500 bbls. Its initial natural production was 3,600 bbls. from sand topped at 2,958 feet.

Work on the Burbank inside locations which were opened up shortly after restrictions were partially lifted, was also going ahead rapidly. The Gypsy Oil Co. had rigs on the ground for all four inside wells on its Sands lease in the SE quarter of Section 4-27-5. The Phillips Petroleum Co. was building rigs for Nos. 13, 14, 16 and 17, all inside locations in the NE of Section 9-27-5, and the Phillips Petroleum Co. and Delmar Oil Co. were building rigs for their Nos. 13, 14, 15 and 16 in the SE of Section 10-27-5.

The Phillips Petroleum Co. staked locations for its No. 4 Washinga, C SE NW NE, Section 16-27-5, and for No. 5 Washinga, C NE SW NE, same section. The Pure Oil Co. had a rig on the ground for its No. 5 Jacques, C SE NW NE, same section. The Twin State Oil Co. had cellars dug for Nos. 14 and 15 McCassey, in the NW of Section 15-27-5.

In the Wetumka district, Hughes County, the Gilcrease Oil Co. and Papoose Oil Co.'s new well in the NE cor. NW, Section 9-9-9, which came in last week at the rate of 60 bbls. an hour and made 550 bbls. in the first 16 hours, fell off to a production of 282 bbls. and was making about 4 per cent water.

Other Operations

In Roger Mills County, the Mutual Oil Co. was drilling at 1,323 feet in its No. 1 Wilson, NE cor. NE SE, Section 1-16-21w. Martin & Rogers were spudding their No. 1 Kelly, C NW NE, Section 32-12-26w.

In the old Robberson Field, Garvin County, the Magnolia Petroleum Co.'s No. 3 Mauldin, NE cor. SE, Section 16-1n-3w, which was completed January 8 for 300 bbls. from sand at 1,865-68 feet, was at last reports making 150 bbls. of which 85 per cent was b.s. The same company abandoned its No. 1 Parnell, SE cor. NE NE, same section, as dry at 2,185 feet.

In Pottawatomie County, the Magnolia Petroleum Co.'s No. 1 Vinson, C SE SW NW, Section 18-7-5, was drilling in blue shale at 2,920 feet.

South of Weleetka and northeast of Wetumka, in Hughes County, the Tidal Oil Co.'s No. 1 Baker, SE cor. SW SE, Section 4-9-11, which found lime at 2,907-10 feet and a show of oil at 2,910-15 feet, was given a 15-quart shot from 2,950-60 feet and was cleaning out and swabbing about 45 bbls. Total depth was 2,977 feet.

In the old Lyons Pool in Okfuskee County, the Sinclair Oil & Gas Co. brought in a 12,000,000-foot gasser in its No. 3 Smith, NE cor. NW, Section 13-11-11, from sand at 2,770-84 feet.

The Bristow district in Creek County had another gusher added to its credit when the Lorraine Petroleum Co. and U. S. Cities Corp.'s No. 11 Deere, CWL SW NE, Section 23-16-8, topped the Dutcher sand at 3,126 feet and was estimated good for 1,000 bbls.

In Osage County

In Osage County, the Sand Springs Home topped the Bartlesville sand at 2,305 feet in its No. 77, CSL SW NE NE, Section 2-21-8, and found the pay at 2,353-76 feet, estimated good for 150 bbls. Barnsdall Oil Co.'s No. 8, SE cor. Section 5-20-12, was plugged back from 2,012 feet to the pay sand at 2,005-08 feet, where it made 65 bbls. of oil and 100 bbls. of water. The same company was drilling at 226 feet in its No. 23, CWL NW NW, Section 9-20-12, and at 500 feet in its No. 22, NE cor. Section 31-21-12.

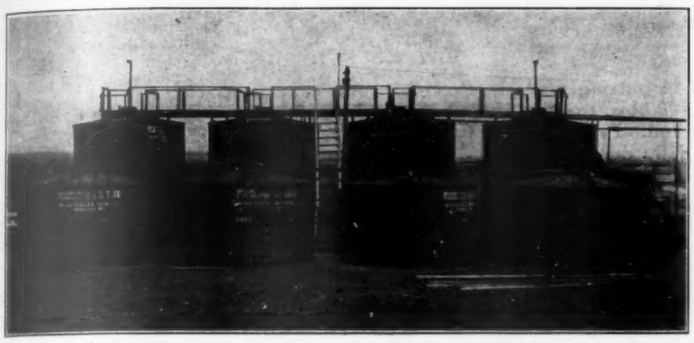
The Tidal-Osage Oil Co. was preparing to deepen its No. 1, C NE NE, Section 23-21-10, which was flowing 150 bbls. from the Wilcox sand at 2,519-30 feet. The Mutual Oil Co. gave its No. 5 NW cor. NE SE, Section 32-24-8, a shot of 30 quarts in sand at 697-712 feet and it made 15 bbls. after the shot. The Tex Log Oil Co. abandoned as dry at 790 feet its No. 3, CSL SE SE NE, Section 16-24-8.

Tulsa County

In Tulsa County, Pouder & Powers treated their No. 3 Bruner, CSL SE SE SW, Section 9-18-13, to a 20-quart shot

(Continued on Page 113)

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



A Battery of Perfection Vapor Pressure Tanks in the Burbank Field belonging to Cosden & Co.

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Tanks are no longer just "tanks."

A wise oil operator now selects them with the same care he picks any other equipment for his lease.

They must have quality of course; that is why they must be made right and have no physical imperfections with a generous factor of strength and durability plus.

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Fortunately the Perfection Vapor Pressure tank manufactured by Black, Sivalls and Bryson not only is built "right" but has the special relief valve which stops all gaugeable evaporation losses.

The best measure of its success is that about every company of importance in the country has made it standard lease equipment.

Black, Sivalls and Bryson also manufacture bolted steel storage and wooden tanks in all the usually required sizes where special needs call for that class of storage.

Our representative in your field will be glad to figure on your lease requirements. It will not cost you a penny.

PERFECTION A GUARANTEE OF PROTECTION

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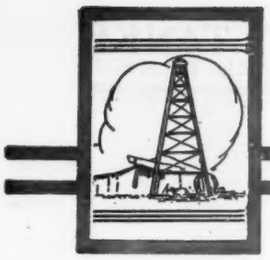

East Central Texas

By Staff Correspondent.

Gulf Production Co. quite successful for period in putting wells in Powell Field on air, increasing output of one well from 600 bbls. to 3,500 bbls. daily. Other companies get little result from same method. Production at Powell shows another gain and averages 100,000 bbls. daily during week.

CORSICANA, Tex., Feb. 11.—Production in the Powell Field is holding up very satisfactorily. Few completions were reported in the past week and none of them were big wells but the old wells are responding to the pump in a very satisfactory manner and the field produced last week an average of 100,000 bbls. a day. Among the completions reported this week were several outside dry holes but as an indication that the opinion still exists that the field can be extended a number of new wildcat operations have been started in the county more or less removed from the heart of the Powell Field.

The field proper has settled down to the regular daily grind of an old development, and many of the men connected with operating companies not directly working in the production end of the business have moved north to the prospective development in Kaufman, Hunt and other counties.

The story of work in the field can be told briefly these days. Carter & Lytel were last reported drililng in chalk at 2,582 feet in their No. 1 Hackney, McNulty survey, a wildcat location.

The McMan Oil Co. has a derrick up for No. 8 Chapman, Anderson survey, and has made a location for No. 2 Chapman, Broyles survey. Other new derricks include the Humble Oil & Refining Co.'s No. 25 Humphreys, Smith survey; Simmons Oil Co.'s No. 4 Kellum, Greer survey; E. L. Smith Oil Co.'s No. 2 Cerf, (rigging up); Simms Oil Co.'s No. 5 Kellum, Greer survey; Skelly Oil Co.'s No. 1-A and No. 2-A Ramsey, Smith survey; The Texas Co. and Magnolia Petroleum Co.'s No. 17 Kent, Smith survey (rigged up); Mutual Oil Co.'s No. 10 Howell, Mathews survey and Simms Oil Co.'s No. 11 Rose, Harris survey.

The McMan Oil Co. and Witherspoon's No. 1 Chapman 153 acres, Broyles survey, made 160 bbls. the first 24 hours from sand at 2,842-56 feet.

The Humble Oil & Refining Co.'s No. 4 Mrs. Walker, Smith survey, started at 240 bbls. from sand at 2,899 to 2,956 feet and the same company's No. 14-B Ramsey, which got sand at 2,838-2,937 feet started at 250 bbls.

Gilbert Johnson's test on the Harvard farm, Mathews survey, which was dry at 2,960 feet was plugged back to 2,945 feet, but did not show any production and was abandoned as a failure. The same operator has four other wells drilling on the lease, and No. 2 was ready to test at 2,945 feet when last heard from; No. 4 was shut down at 2,940 feet and No. 3 was shut down at 310 feet.

The Simms Oil Co.'s No. 1 Allen 100 acres, on the Smith survey, was abandoned at 2,700 feet.

An Important Test Is Dry

The Texas Co.'s test on the Autry farm, Autry survey, ahead of production, near the town of Navarro, was abandoned as dry at 3,051 feet. It found no sand. This test was drilled on geological advice and was regarded as an important wildcat.

Webster & Pickens are drilling a test on the Baldridge farm, Fonteney survey, a wildcat location. Neeney & Smith were below 1,800 feet on their No. 1 Goldman 50 acres, Lockhart survey. The Atlantic Oil Producing Co. is drilling below 800 feet in No. 1 Cunningham on the Smith survey.

Field work at present includes 15 derricks including operations rigging up and 43 wells drilling, including wells in the sand and on top of sand with pipe set a total of 58 operations.

Tidal Buys Smith Production

The Tidal Oil Co. has bought the E. L. Smith Oil Co.'s Wheelock, Kent and Ramsey leases, with 12 wells and about 2,500 bbls. daily production. This acquisition gives the Tidal Oil Co. a daily production of about 10,000 bbls. a day. The company has nearly 970,000 bbls. of crude in storage. It has twelve 80,000-bbl. tanks and nine 55,000-bbl. tanks into which it is running oil.

The Gulf Production Co. has put its Crew lease on air and the production of its No. 4 Crews was increased from 600 bbls. a day to 3,500 bbls. a day, while Nos. 13, 14 and 17 Crews all showed a good increase, aggregating 2,000 bbls. a day. The new production fell off somewhat after the first day. The Sims Oil Co. and the Tidal Oil Co., which put wells on air near the Gulf's wells did not have such success and the whole field is trying to ascertain how the Gulf production men are doing it. The increase in production in the field may be attributed to the air method of recovery.

Oil in Richland District

In the Richland district McDonald and others' No. 1 Brown is flowing 200 bbls. a day from sand at 2,964-67 feet. The Texas Co. is running the oil, which is of 39.5 degrees gravity. McDonald and his associates own 470 acres around the well. The Texas Co. has acreage north, the G. O. P. Oil Co. on the east and J. K. Hughes has 93 acres just west of the McDonald leases. Meade and others' No. 1 Smith is shut down at 3,029 feet waiting for casing. Miller & Lewis No. 1 Swink is shut down after bailing sand at 2,987-89 feet. Langley and others' No. 1 Swink is shut down after drilling into sand at 2,959-64 feet. They claim they swabbed 100 bbls. of oil from the hole.

North of the Fishpond district in Limestone County, Carter & Lytle's No. 1 Mackney on the Sarah McNulty survey in Freestone County, is the most interesting test in the East Texas district. It drilled out of the chalk at 2,617 feet and was below 2,650 feet at last report. Land owners near the well are asking $200 per acre for leases on the strength of the geological indications shown by the lone well in that neighborhood.

Wildcat Tests Abandoned

A number of wildcat operations long carried as shut down have been removed from the record of rigs and wells drilling.

In Raines County the location for Lovewell Oil Co.'s No. 1 Hunt was abandoned. In Falls County the location for Southern Rose Oil Co.'s No. 1 Allen was abandoned.

In McLennan County the Tudor Oil Co.'s No. 1 Shelton was abandoned at 2,052 feet. The Mexia Central Oil Co.'s No. 1 Schnecker was abandoned at 1,938 feet; Mexia Commonwealth Oil Co.'s No. 1 Halloway, abandoned at 1,250 feet.

In Falls County the Balto-Tex Co.'s No. 1 Price was abandoned at 3,290 feet; Indland Oil Co.'s No. 1 Jennings, abandoned, depth not stated; High Banks Oil Co.'s No. 1 Peacock, abandoned at 2,475 feet; Texola Petroleum Co.'s No. 1 Harlan, abandoned at 3,108 feet; Pearce Petroleum Co.'s No. 1 Clark, abandoned at 3,508 feet; Mayflower Oil Co.'s No. 1 Covington, abandoned at 2,750 feet; Edwards and others' No. 1 Brown, abandoned at 750 feet.

In Robertson County, Campbell and others' No. 1 Holloway was abandoned at at 3,780 feet; Kentucky Texas Oil Co.'s No. 1 Walker, abandoned, depth not announced; Texola Oil Co.'s No. 1 Stephens, abandoned, depth not stated.

In Williamson County, United Oil Workers Oil Co.'s No. 1 Koonson, was abandoned at 1,885 feet.

In Anderson County the Palestine Oil Co. No. 1 Manning Plant. was abandoned at 1,430 feet.

Big Companies Buy Large Blocks of Wildcat Acreage

KAUFMAN, Tex., Feb. 11.—The Boyd Oil Co. has let the contract for a 3,500-foot test in the southwest corner of the B. T. Rand 196-acre farm on the J. R. Reirson survey, close to the town of Prairieville, Kaufman County. The well will be started without delay and in three months it should give a line on the merits of that part of the county as an oil region. The officials of the Boyd Oil Co., which is headed by Col. A. E. Humphreys, who with his associates, opened the Mexia Pool in Limestone County, and the Billings Pool in Noble County, Oklahoma, are strong in the belief that this is one of the best prospects they have yet drilled in an altogether wildcat territory.

The Boyd Oil Co. and the Humphreys Oil Co. own a block of acreage of which the Rand farm is a part. The acreage is held separately, the Boyd Oil Co. owning about 2,000 acres and the Humphreys Oil Co. about 2,500 acres. It is pretty well checkerboarded between the two owners.

The Marland Oil Co. has 183 acres east of the Humphreys-Boyd block and has four blocks north of the Humphreys-Boyd block. The Marland acreage lies in Kaufman, Van Zandt and Rains Counties and the blocks are about 4,000 acres each in area. South of the Humphreys-Boyd block the Humble Oil & Refining Co. and the U. S. Tex Oil Co. are partners in a 4,000-acre block and south of this property the Humble Oil & Refining Co. and the Humphreys Oil Co. have separately checkerboarded another block of about 4,000 acres in Henderson County.

East of one of the Marland blocks in Van Zandt County, the Boyd Oil Co. owns 1,000 acres.

The Bazette Structure

South of the Humble and Humphreys block and about 8 miles north of the town of Powell is the Bazette structure in Navarro County, which is also looked upon with great favor. Doctor O'Hern, of Oklahoma City, a geologist of note, blocked a large amount of acreage there and sold off parts of it. The Boyd Oil Co. owns 2,600 acres, the Midwest Refining Co., 160 acres; the Mutual Oil Co., 240 acres; Doctor O'Hern and his associates, 1,500 acres; the Homa-Okla Oil Co., several hundred acres and the Atlantic Oil Producing Co., a good sized parcel.

The Mutual Oil Co. has agreed to drill a well on its property, and the Boyd Oil Co. expects to get started on a test within 90 days. F. Julius Fohs, of the Boyd Oil Co., and an eminent geologist, is a firm believer in the possibilities of this structure.

The Atlantic Oil Producing Co. has started a test on the Germany block of 3,000 acres in the northwest corner of Van Zandt County.

The Gulf Production Co. is playing Hunt County and has three blocks, about 12,000 acres in all, on which it is expected to drill sometime in the spring.

Operators Very Hopeful

All the above acreage is supposed to lie east of the Mexia fault, which is distinct from the Balcones fault, although often confused with it. Within the area covered by the above mentioned acreage, lies the hope of oil men of opening pools like those developed in the Mexia and the Powell districts. The conditions are believed to be as good, if not better than were found at Powell and the operators have the advantage of a large store of knowledge gained in the development of the Powell and Mexia Fields.

Nearly all the big Mid-Continent companies have men in the field taken from their land and leasing departments to acquire leases or simply as observers. These men are scattered through the field with headquarters in county towns in Kaufman, Van Zandt, Rains, and Hunt Counties. Representatives of smaller interests are ranging over the territory in large numbers trying to pick up desirable leases at prices within reason.

Attorneys General Find No Violation In Gasoline Probe

JEFFERSON CITY, Mo., Feb. 9.—Information gathered by Attorney General Jesse W. Barrett in many months of effort to determine any possible violation of law in price fixing in the gasoline industry, has brought only part results, the attorney general indicates in a letter to Roy F. Britton of St. Louis, head of the Missouri Association of Automobile Clubs. The letter was written in response to a protest against St. Louis gasoline prices, urging action by the attorney general.

Little information on which the State might act has been obtained either by Attorney General Barrett or attorneys general of other States. Data have been exchanged with officers of other States, but nothing of an illegal nature has been revealed, the attorney general's letter says.

The Standard Oil Co. of Indiana dominates the Missouri market, the attorney general points out, not by any illegal trade agreements, but by sheer size and influence. The company is of such size that independent concerns cannot engage in price competition. The situation has become such that all other companies meet the price set by the Standard Co.

The best means of obtaining relief from high prices, the attorney general says, is by cooperative distribution of gasoline. A group of motorists could combine to buy gasoline at the wholesale figure in St. Louis, ship it to their city and retail it at a price which would eliminate any great retail profit. The Standard and other companies would be forced to meet this price, the letter points out.

The St. Louis man also is asked to furnish any information he might obtain on the gasoline price situation, which would be of value to the attorney general.

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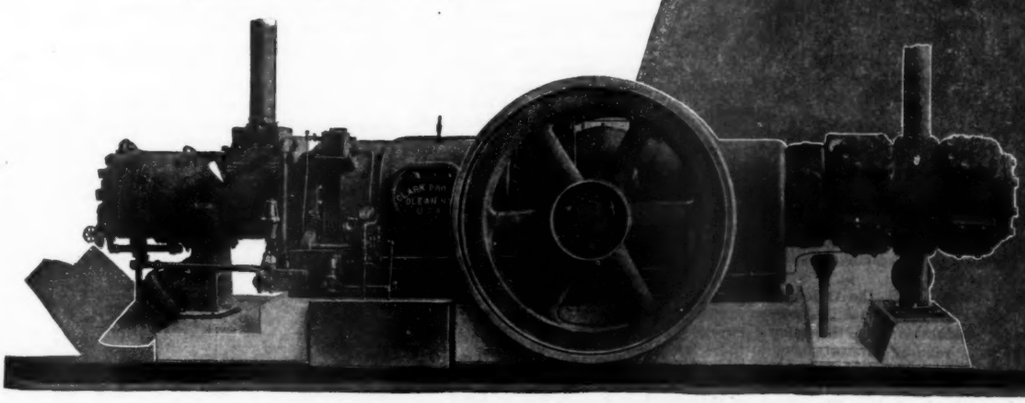

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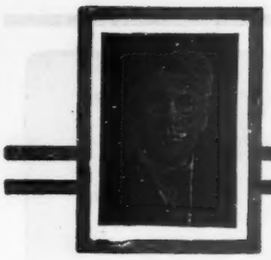

Wyoming Field Operations

By F. B. Taylor

Salt Creek Consolidated gets 300-bbl. producer in Salt Creek and Midwest 200-bbl well. Interesting tests in southeast Wyoming near old Fort Laramie, at Billy Creek Dome and at Rex Lake. Drilling on Little Beaver Dome, Montana, near sand. Controversy over cementing rules Salt Creek.

CASPER, Wyo., Feb. 9.—The southeast part of Wyoming has in the past received several tests on structures that all turned out dry, but two more wells are planned for the coming spring, one near old Fort Laramie and the other north near Guernsey. Old Fort Laramie was one of the pioneer trading and military posts of this region, located on the Platte River and should not be confused with the present city of Laramie, west of Cheyenne, in Albany County. The two places were hundreds of miles apart. Capital has been secured to start another test there and one of the rigs used to drill the old wells will be used. It is planned to start a 20-inch hole so as to carry a big hole as deep as possible and it is expected the sands will come in about 4,000 feet.

The Tarrant Syndicate drilling a wildcat in Johnson County, south of the Billy Creek Field, struck the first Wall Creek sand at 2,245 feet and found water. The formations are correlating with the wells at Billy Creek and the pay is expected about 3,500 feet.

The Billy Creek well of the Consolidated Royalty, Western Exploration and Carter Oil Co., repaired the rig and drilled through the sand that was reached when the top of the rig pulled in last week. The sand proved only a thin lens and was not the Muddy sand as first thought. It carried some oil and gas, however.

New Test at Rex Lake

The Ohio Oil Co. has started a second well at Rex Lake south of Laramie and the Rock River Field. The first well appears to be the discovery well of a new pool and the second test will reach the sand about June it is expected. The Ohio also has two wells nearing completion at Rock River.

In the Salt Creek Field, the Ohio Oil Co. shot its well on Section 20-39-78 and increased production. In the same field the Midwest refining interests completed a producer good for 200 bbls. on Section 15-40-79 in the second Wall Creek sand on land of the Wyoming Associated Oil Co. and the hole is 2,425 feet. The Salt Creek Consolidated of the Midwest interests completed a well on Section 31-40-78 good for 300 bbls. in the second Wall Creek at 2,169 feet and the Wyoming Associated Oil Co. completed a producer on Section 27-40-79 at 2,750 feet that started off at 50 bbls.

Montana Test Near Sand

The well being drilled on the Little Beaver Dome of the Cedar Creek anticline, close to the North Dakota line in Montana, by the Absaroka Oil & Development Co., is getting interesting. This well is now 3,671 feet deep and the 8¼-inch casing has been set and found tight.

The Dakota sand is the objective of this test and the structure is a large one, extending from a point near Westmore, Mont., to the Cave Hills in the northwest corner of North Dakota. Marmarth, N. Dak. is the rail point for the operation.

May Extend Osage

The Shaw well located on the Holst ranch southwest of Newcastle, in Weston County, Wyoming, is drilling after a winter shutdown. This is a wildcat that is to try and extend the Osage Field southward, although the Skull Creek well of the Midwest shut off any such extension when it was found dry on the southeast.

A deal is reported from Kemmerer in Lincoln County in the southwest part of Wyoming by which the Cretaceous Oil Co., a local concern, will turn over its holdings to the Utah Oil & Refining Co. of Salt Lake City. The Utah is a subsidiary of the Midwest Refining Co. This deal involves about 900 acres in the Labarge and Big Piney country north of Kemmerer and one well that shows for a nominal production of very high grade oil. The Utah is reported to be taking over the property to test lower formations that are known to be possible oil horizons below the depths of the wells drilled to date.

An effort is to be made by Arkansas parties to make the wells in the Big Hollow structure south of Laramie, produce. This field was drilled in 1916-17 and some black oil was found about 900 feet, then deep tests failed to develop anything in the lower sands and the field was abandoned except for the shallow wells. The production was nominal and the operation has been shut down for some time past.

Cementing in Salt Creek

The Midwest and the Bureau of Mines are having some discussion over the recent statement from the Bureau of Mines that all wells in the Salt Creek Field should be cased 225 feet below the top of the second Wall Creek sand and cemented there. At a recent meeting of the Wyoming Petroleum Club, Mr. Estabrook, chief petroleum engineer for the Midwest, started the ball rolling by stating that a formation shutoff could be had in many place in Salt Creek without the use of cement. Jack Steele of the Bureau of Mines took issue on the question and a lively tilt has developed among the oil men in general over the question.

Between the first and second Wall Creek sands at Salt Creek and Teapot there are several lenticular sands, some of which are dry and some carry water. According to Mr. Estabrook, the locations of these lenticular sands have been so well defined by the wells drilled in the field that it is comparatively easy to tell whether a well located in a certain part of the field will find water between the first and second Wall Creeks or not. With this data, the need of setting casing 225 feet below the top of the first Wall Creek is obviated where the lenticular sand does not carry water and a considerable saving per well could be made if the casing were cemented at the base of the first Wall Creek sand.

The Buck Creek Oil Co. held its annual meeting at Lusk the past week. A. E. DeRicqules, W. H. Ferguson, C. E. Strong, J. D. Grant, Louis Noble, E. T. Wilson and R. S. Shannon were re-elected to the board of directors. This company was at one time considered the strongest in the Lance Creek Field and is associated with the Continental interests of Denver, but the failure of the field placed the firm among the list of small operators.

Colorado Operations

The Union Oil Co. drilling on the Wellington Dome in Colorado struck a gas pocket in the shale at 670 feet and the strike occasioned some excitement. This is a common occurrence in this region and is really no indication of what may lie below the shale formation. The producing sands are expected in this well about 3,700 feet. The Union Oil Co. of California is the firm that opened the Wellington Dome, but another Union Oil Co. has appeared, the Union Oil Co. of Colorado, and is to operate in the same district. The latter firm is not connected with the Dutch-Shell interests or the Union of California.

The Texas Co. has ordered material for four new wells on Hamilton Dome structure near Craig in northern Colorado. The company is erecting two 5,000-bbl. steel storage tanks and as soon as completed the well will be drilled 30 or 40 feet deeper and then allowed to flow to determine its true capacity. Craig has been considered as a terminal for a pipe line and Rawlins has also been considered.

The Government has held that the land of the Union Pacific Railroad, deeded to that firm as part compensation when the road was built through the West, carried title to the minerals under the surface. In northern Colorado, many applications for permits have been filed since the Wellington gas strike on the supposition that the Government still owned the subsurface rights.

A wildcat is planned by the Mark Producing Co. to test tracts in Wayne and Dixon counties, Nebraska. The tools and rig are reported shipped from Texas and work will start at once. At present there is no active work going on in Nebraska.

Pipe Line Runs

A slight increase resulted from the pipe line runs of the past week over that of the preceding week.

Salt Creek	118,525
Teapot	4,425
Big Muddy	3,610
Grass Creek	3,200
Elk Basin	1,400
Greybull	165
Rock River	3,500
Lance Creek	1,550
Poison Spider	225
Osage	650
Hamilton Dome	500
Lander	425
Pilot Butte	85
Lost Soldier	5,975
Ferris	150
Cat Creek	4,575
Sunburst	500
Miscellaneous	750
Total	150,210

MEXICAN FIELDS

By George Blardone

TAMPICO, Mex., Feb. 8.—It cannot be said that completions the past few days have resulted in much new production, with the exception of one well in the Buena Vista of the East Maguabes sector, Panuco Pool, which Vera Cruz Mexican Petroleum Co. has completed at 2,228 feet, rated for a potential "head" of about 4,000 barrels. In Cacalilao sector of the same pool, Mexican Gulf Oil Co.'s No. 39, Lot 1, (4-C) is a 150-bbl. well at 2,031 feet. In the same sector, No. 49, of La Corona Petroleum Co., Lot 4, is a duster at 2,052 feet; and Transcontinental Petroleum Co.'s No. 60, Lot 1, same sector, is also a dry hole at 2,182 feet.

In the Topila Pool, Hicks et al, No. 8, Lot 6, Paciencia de Aguacate got a 700-bbl. well at 2,333 feet, and in the same pool, La Espuela Oil Co.'s No. 3, Lot 45, same sector, is rated 200 bbls. at 2,306 feet. This latter is a Tamasopa well, getting the top of the lime in question at 2,200 feet.

There were no completions reported from the South Fields. Conditions unchanged, to speak generally.

Late Fields

Kansas

Two wells in the Seeley Pool in Greenwood County were shot during the week. They were the Empire Gas & Fuel Co.'s No. 7 Seeley, C NE SE NE, Section 5-23-11, which was given 50 quarts in sand at 1,947-66 feet and made 75 bbls., and the Tidal Oil Co.'s No. 7 Seeley, C SE NE NE, Section 5-23-11, which produced 20 bbls. after a 20-quart shot in sand at 1,938-52 feet, with total depth at 2,004 feet.

Pryor & Lockhart's No. 2 Butler, NW cor. SW SW, Section 1-21-15, was dry and abandoned at 1,827 feet. A rig was in place for the Rothburt Oil Co.'s No. 4 Porter, CSL SW SW, Section 19-29-8, and the Sinclair Oil & Gas Co.'s No. 1 Porter, CEL SE SE, Section 11-29-8, was drilling at 850 feet. Shawver & Sutter were spudding their No. 1 Nichols, NE cor. SW, Section 6-26-9.

Two other failures were abandoned. They were Griggs and others' No. 1 Ladd, SE cor. NE SW, Section 29-25-9, at 2,541 feet, and Roth & Farout's No. 1 Welch, NW cor. NE, Section 14-25-8, at 2,637 feet. Hover and others were spudding their No. 1 Hover, NW cor. SE, Section 19-24-9.

Day & Connell abandoned the location for their No. 1 Miller, NW cor. NE, Section 1-22-10. The Empire Gas & Fuel Co. was drilling at 1,400 feet in its No. 6 Piatt, C SE SE NW, Section 13-23-10. The Phillips Petroleum Co.'s No. 5 Edwards, C NW NW SE, Section 13-23-10, which made 40 bbls. natural the first 24 hours, was treated to a 120-quart shot in sand at 2,081-2,118 feet and swabbed 171 bbls. It is estimated good for 100 bbls. First oil was found at 2,091 feet. The Mid-Kansas Oil & Gas Co. was drilling its No. 2 Martindale, CEL NE, Section 31-23-10, at 800 feet.

In the Agard district, Rogers and others' No. 2 Brotton, CWL NW NE, Section 14-24-9 was cleaning out after a 180-quart shot in sand at 2,117-91 feet and was estimated to be a 200-bbl. producer. The same interests were spudding their No. 4 Brotton, NE cor. NW NE, same section, and were drilling at 1,800 feet in their No. 3 Brotton, one location west. The Phillips Petroleum Co. and others were spudding their No. 1 Bragg, C NW NW NW, Section 30-24-10.

TONGS HAVE TWO-STEP LUG

An illustration was shown in the Wilson & Willard advertisement of February 7 in The Oil and Gas Journal that pictured a set of Wilson Tongs with a single latch. The cut was an obsolete one that inadvertently was forwarded to this publication. The latest design of Wilson Tongs embodies a two-step lug, whereas the latch on the tong illustrated shows only a one-step lug.

TO TEST SOUTHWEST TEXAS

OKLAHOMA CITY, Okla., Feb. 11.—Clyde Byler has been assigned an interest in 88,000 acres of leases belonging to the Phillips Petroleum Co. in Southwest Texas and is drilling a test that has reached about 700 feet. According to geologists, paying gas should be found at about 2,000 feet. The test will be drilled to 4,000 feet if necessary. The location is 16 miles south of Chispa, on the Southern Pacific about 110 miles east of El Paso.

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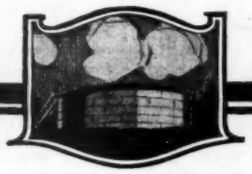

Gulf Coast Oil Operations

By P. L. McGreal

Production of pools in Coastal area shows substantial gain as activity increases. Well in Big Creek Pool, Fort Bend County, blew in and is flowing 1,000 bbls. by heads. Big wells at Hull believed to have caused temporary halt in upward trend of crude prices in Gulf Coast section.

HOUSTON, Tex., Feb. 11.—Gross production in the Gulf Coast pools and the southwest fields is slowly creeping upward again, the total for the week being estimated at 96,515 bbls., a gain of 4,465 bbls. over the previous week. The Luling estimate is 13,000 and the Callihan district potentially 2,000 bbls.

The district 7 miles south and east from Richmond in Fort Bend County, known as the Big Creek Pool, or rather semi-pool, flashed on the map early in the week with a well flowing 1,000 bbls. by heads at 2,790 feet. It blew in. The oil is 26 gravity and the well is located 1,000 feet northeast from previous production there. The oil is being run into earthen storage as the district has no pipe line connections yet. The well is the Gulf Production Co. and Snowden and McSweeney's joint No. 9 Davis. These same interests have a pumper in No. 6 Wheat at 2,200 feet. The Gulf Co. and Snowden and McSweeney have practically all the acreage in one block there with the exception of a few small tracts. A location has been made for No. 12 Davis. No. 10 and No. 11 are drilling. The Texas Co. has a location for No. 1 Ahlers and Rich and associates are deepening No. 1 Ahlers on the south side of Big Creek.

Other Completions

In the Hull Pool, the Republic Production Co.'s No. 74 Dolbear, which came in last week flowing 5,000 bbls. at 2,960 feet, is now flowing 3,000 bbls. showing 30 per cent sediment. The company's No. 76 Dolbear, which came in recently at 10,000 bbls., but was pinched down, is still making 7,000 bbls. No. 74 is on the south end of the 800-acre lease and No. 76 on the north side. No. 74 is 31 gravity. The oil is being run to the Humble Pipe Line Co. These big wells have caused a halt in the upward trend of credit balance prices. The Humble Oil & Refining Co. is bailing No. 2 Taylor on the northwest side of the Hull Dome at 3,215 feet. The Higgins Oil & Fuel Co.'s No. 7 Merchant is a pumper and the Yount-Lee Oil Co.'s No. 8 Merchant bailed dry at 3,010 feet and is being drilled deeper. The Sun Oil Co.'s No. 9 Carr on the south side, is bailing at 2,100 feet, after plugging back from 3,605 feet.

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 10 Tabb is a salt water well at 4,570 feet. The Gulf Production Co.'s No. 8 Paddock is pumping 200 bbls., 50 per cent water, at 2,500 feet and it is bailing No. 3-H Galliard at 2,400 feet after a work over.

In the Humble Pool, Martin and Czereaux's No. 13 Hirsch is a 200-bbl. well. In the Batson Pool, the Ada Bell Oil Co.'s No. 65 Honeymoon is pumping 20 bbls. at 365 feet and the Gulf Production Co.'s No. 155 Wing is a pumper at 1,125 feet. In the Sour Lake Pool, The Texas Co.'s No. 233 fee is a salt water hole at 2,200 feet. The Humble Oil & Refining Co. has acquired the leases of the Lake Oil Co. there with 40 wells and a daily average production of 200 bbls. The consideration is not known.

The large number of deep holes in the Orange Pool is an outstanding feature of the development work in the Coastal region. Most of them range from 4,200 to 4,800 feet. The Brownie Babbittee Oil Co.'s No. 4 McLain is a pumper at 4,065 feet after deepening. The Orange Petroleum Co.'s No. 2 Chesson revived and is making 150 bbls. by heads. The deep holes are searching for the sands found by the Sun Oil Co. in No. 2 Brown at 4,260 feet when it extended the pool about 1 mile to the southeast last November. The well is now sanded. The Humble Oil and Refining Co.'s No. 18-B Chesson is being rigged to pump at 4,235 feet after being deepened. The Gulf Production Co.'s No. 13 Hager fee is deepening from 4,800 feet and the Ryeade Oil Co.'s No. 3-A on the banks of Cow Bayou is reaming to set screen and test at 4,820 feet.

In the southeast extension, the Sun Oil Co.'s No. 3 Brown is at 4,235 feet and No. 4 is fishing with drill stem stuck at 2,330 feet. No. 2 Gunstream is deepening at 3,380 feet. The Brownie Babbittee Oil Co.'s No. 1 Brown is at 4,250 feet. The Gulf Production Co.'s No. 12 Hager is at 3,545 feet. No. 2 Peveto is deepening at 3,650 feet, No. 4 drilling at 3,654 feet and No. 5 around 4,435 feet. No. 8 Winifree is at 2,980 feet. No. 1 Hammam on the south side of the pool is at 3,345 feet. The Ryeade Oil Co.'s No. 1-E is below 2,300 feet. The Humble Oil & Refining Co.'s No. 20 Chesson is drilling at 3,980 feet. The Brownie Babbittee Oil Co.'s No. 6 McLain is deepening. The Sinclair Oil & Gas Co. has a deep test in No. 6 Granger drilling below 4,560 feet. The Edgerly Petroleum Co.'s No. 3 Carbello is at 3,545 feet and the Orange Petroleum Co.'s No. 3 Chesson is at 2,545 feet with No. 4 sidetracking at 3,950 feet. The Atlantic Oil Producing Co.'s No. 1 Moore is deepening at 3,150 feet. The Supreme Oil Co.'s No. 1 Jackson is deepening at 3,860 feet. On the northwest side of the pool, the Gulf Production Co.'s No. 6 Kishi-Lang is drilling at 4,180 feet and McClain and others' No. 1 Williams is at 875 feet. The Kishi Development Co.'s No. 5 Kishi is rigging. On the west side, the Pilot Oil Co.'s No. 1 Aronson is at 2,343 feet. On the northeast side, the Sun Co.'s No. 1 Kato is below 4,465 feet and the American National Oil Co.'s No. 1 Winifree, 1 mile from production, is below 4,120 feet. The Orange Production Co.'s No. 1 Gum Island, a wildcat east of the pool is at 2,000 feet.

In the Hull Pool

On the southwest side of the Hull Pool, The Texas Co. and Vacuum Oil Co.'s joint No. 2 Hannah is rigging. On the west side, the Gulf Production Co.'s No. 12 Hannah fee is drilling below 3,500 feet. On the northwest, the Yount-Lee Oil Co.'s No. 4 Taylor is below 4,550 feet and No. 5 at 3,325 feet. The Monarch Oil & Refining Co.'s No. 2 Miller is shut down at 4,285 feet and No. 3 is drilling below 4,685 feet. The Humble Oil & Refining Co.'s No. 1 Sterling is at 4,000 feet with No. 2 Merchant rigging up to deepen. The Houston Production Co.'s No. 7 Taylor is at 3,210 feet and the Link Oil Co.'s No. 2 Peveto at 3,024 feet. The Empire Oil & Gas Co.'s No. 3 Lynd is at 1,179 feet. On the north side, the Gulf Production Co.'s No. 11 Scarborough is at 3,435 feet. On the northeast, the Humble Oil & Refining Co. is working over No. 9 Hankmer.

On the east side, the Republic Production Co.'s No. 50 and No. 60 Dolbear are being worked over, while No. 77 is drilling around 2,765 feet and No. 78 is rigging. On the southeast, the Gulf Production Co.'s No. 9 Phoenix is working over, with No. 36 below 2,765 feet and No. 37 at 1,435 feet and No. 38 rigging to start. No. 1 Thomas fee, a work over, is fishing.

The Goose Creek Pool has its quota of deep holes, although not as many as Orange or Hull because less rigs are in operation there. Out in the bay, but near the shore line, the Gulf Production Co.'s No. 27 Beaumont Petroleum Co. sub-lease, is drilling below 4,570 feet. No. 28 on that lease is around 3,500 feet. No. 2 Hirsch on State land in the bay is below 4,500 feet. No. 5 State Land Oil Co., another bay shore lease, is rigging. On the mainland, the Gulf Co.'s No. 12 Tabb is around 1,435 feet. No. 10 Paddock is at 2,035 feet and No. 11 is rigging up. The Humble Oil & Refining Co.'s No. 24 Galliard peninsula is at 1,545 feet and No. 26 is below 4,560 feet. No. 54 Smith is at 2,235 feet. No. 3 Harrell is rigging up. The Gulf Coast and Crown joint No. 19 Galliard is at 2,100 feet, working over. The Sun Oil Co.'s No. 16 B. Smith is at 2,010 feet. Newton & Gilcrest's No. 3 Wright is working over.

At Blue Ridge, the Mutual Oil Co.'s No. 1 Weems on the northwest side of the dome is below 4,060 feet and The Texas Co.'s No. 11 Robinson is at 3,180 feet. On the east side, the Gulf Production Co.'s No. 8-C Blakely is below 900 feet.

At Pierce Junction, the Sun Oil Co.'s No. 1 Ritter on the north side, is below 4,100 feet. On the east side, the Gulf Production Co.'s No. 15 Taylor is deepening and a location has been made for No. 16.

Oldesr Pools Also Active

Even the older pools are showing evidences of activity and rigs are being put to work every day. At Spindletop, the Sheffield Oil Co.'s No. 1 Rowe is below 545 feet. The Selma Oil Co.'s No. 2 Chaisson is around 800 feet and the Unity Oil Co. is rigging No. 82 McFadden. The Ryeade Oil Co.'s No. 2 McFadden, a deep test off the dome, is reaming at 4,350 feet. In the Sour Lake Pool, the Gulf Production Co.'s No. 57 Tarver is deepening and the Humble Oil & Refining Co. is rigging No. 37 Hardin. The Star Oil Co.'s No. 1 Lynn is at 1,709 feet and the Lake View Oil Co.'s No. 3 Minor is drilling at 1,700 feet. In the Batson Pool, S. R. Buchanan is drilling No. 72 Milhome at 635 feet. The Gulf Production Co.'s No. 155 L-2 Wing is drilling around 700 feet and the Acorn Oil Co. has a derrick for No. 46 Parafine. Both The Texas Co. and Vacuum Oil Co. have locations on the south side of the Saratoga Pool. The Rio Bravo Oil Co.'s No. 83-B is setting 8¼-inch casing at 2,400 feet.

At West Columbia, the Humble Oil & Refining Co. is rigging No. 2 T. L. Smith and preparing to work over No. 22 Japhet. The Texas Co. has a fishing job in No. 13 Hogg, a hole being worked over. The Sinclair Oil & Gas Co. has five rigs running at Damon Mound and the Humble Oil & Refining Co. one. The Ryeade Oil Co. has two going in the Markham Pool.

South Louisiana

In the Vinton (La.) Pool, the Gulf Refining Co.'s No. 31 Vincent and No. 26 G. N. G. are bailing at 2,325 feet and 2,200 feet respectively. The Texas Co.'s No. 3 Joint is bailing at 2,170 feet.

The Gulf Co. is working over No. 31 G. N. G. with a location made for No. 59. A derrick is up for The Texas Co.'s No. 24 Gray. The Just Oil & Refining Co.'s No. 2 Lyons is at 2,780 feet. Marrs McLean's No. 5 Gray is at 3,435 feet. The Seiss Syndicate is still fishing in No. 8 Green at 1,410 feet. The Vinton Petroleum Co.'s No. 1 Gray is sidetracking at 1,500 feet and No. 44 is drilling below 1,670 feet. Wilson & Brosch's No. 3 Parks is sidetracking and the Sun Co.'s No. 2 Johnson is drilling at 2,235 feet.

In the Jennings Pool, The Texas Co.'s No. 19 Latrielle is below 2,050 feet and the Ryeade Oil Co. is starting No. 2 Latrielle. In the Edgerly Pool, the Gulf Refining Co. is working over an old hole on the Bright-Penn. Orange parties are working over an old well on the Hunter.

Gross Production

The estimated daily average gross for the week for each district is as follows:

District—	Bbls.
Batson	1,110
Blue Ridge	610
Barber Hill	950
Dayton	95
Damon Mound	1,440
Edgerly	190
Goose Creek	13,300
Humble	5,410
Hull	37,550
Jennings	665
Markham	190
Orange	11,400
Pierce Junction	190
Spindletop	855
Saratoga	1,520
Sour Lake	4,705
Somerset and Piedras Pintas	3,540
Vinton	5,000
Welsh and Anse La Bute	95
West Columbia	13,870
*Miscellaneous	3,700
Total	96,515

*Includes Laredo districts, Big Hill, Big Creek, High Island, Nacogdoches, Stratton Ridge and Hockley.

FUEL OIL FOR UTILITIES

The Geological Survey reports consumption of fuel oil by public utility power plants for December, 2923, (first figure November, second December) as follows (only states using 10,000 bbls. or over given): Arizona, 20,736-20,988; Arkansas, 25,686-23,643; California, 359,666-416,397; Florida, 80,020-86,875; Georgia, 26,048-24,262; Kansas, 118,074-121,528; Louisiana, 50,881-61,727; Massachusetts, 53,769-50,370; Mississippi, 12,489-13,374; Missouri, 23,934-27,482; Nebraska, 22,643-24,530; New York, 22-827-23,616; Oklahoma, 46,451-50,244; Rhode Island, 127,189-101,463; Texas, 290,536-292,588; Washington, 47,918-37,368. (Figure in bbls.).

COMPLETING WYOMING LINE

CHICAGO, Feb. 11.—With the exception of three small gaps, the pipe is laid for the Sinclair Pipe Line Co.'s new line from the Wyoming fields to Fremont, Mo., where it connects with the company's lines from Oklahoma to Chicago, according to information given out by H. L. Phillips, president of the Sinclair Crude Oil Purchasing Co., during a recent trip to Chicago. Mr. Phillips asserted that it would be several weeks before the pumping stations were completed and the new line was tested and put into service.

MR. A. L. MILAM, Chief Engineer of the Empire Companies' Cambridge, Kansas, Compressor Station, tells his Superintendent that the two Cooper 80 H. P. engines driving 60 K. W. D. C. generators in their auxiliary room are running as smoothly as two baby carriages. F. D. Renfro, Superintendent of Compressor Stations, says that these two units are as smooth operating electric units as he has ever seen and that they are as near perfect in operation as could be expected.

These are our standard 80 H. P. four-cycle gas engines with extended beds for direct driving compressor cylinder. The only special part is a longer shaft for carrying the generator armature. Compressor cylinders of any size may be attached in the future should the engines not be needed for electric power. This feature, together with their exceptional reliability and fuel economy, have caused a number of oil and gas companies to install them for auxiliary electric power.

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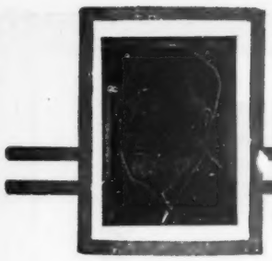


California Field Operations

By L. P. Stockman

Price advances for crude and refined oils indicate demand in California is expected to exceed supply unless new fields are developed. Activity is increasing in wildcat areas. Shell Oil Co. completed 5,000-bbl. producer at Long Beach. Good well brought in at Santa Fe Springs on edge of the field.

LOS ANGELES, Cal., Feb. 9.—When the Standard Oil Co. raised the price of crude, fuel oil and gasoline on January 22, it was not believed that this increase would be followed two weeks later by another. On January 22, the Standard, followed by all of the major marketing companies, increased gasoline 2 cents a gallon and crude oil 25 cents a barrel, for all grades. The latest increase, effective February 5, adds an additional 2 cents a gallon to the price of gasoline and brings the quotation on this commodity, including the State tax of 2 cents, to 19 cents in Los Angeles and 20 cents in San Francisco, the price at other points varying according to the distance from refiining centers. The latest advance in crude ranges from 15 cents a barrel for low gravity oil to 39 cents for the light refinable product. The increase of 15 cents a barrel in low grade oil seems comparatively small when compared with the 39-cent increase in light refinable crude, but it is very important and quite welcome to operators in the San Joaquin Valley, where the bulk of the heavy California oil is produced.

Practically all the operators in California, both large and small, seem to agree that the present year, 1924, will be the most prosperous ever experienced and, while many, especially those limited to the producing end of the game exclusively, will show a very much smaller output, it is believed that higher prices will offset this decline in production to a certain extent. Conditions prevailing at Santa Fe Springs and Long Beach during the past year and a half, of course, were abnormal and the records made by some companies in these districts cannot be equalled under normal conditions. Notwithstanding the fact that competition is keener refining companies operating throughout the State will probably experience their most profitable year to date, as practically all of them have accumulated millions of barrels of crude, fuel oil and gasoline.

May Draw on Stocks

The Standard Oil Co., in announcing its latest increase in price, stated that the advance was due principally to supply and demand. This statement, coming from the largest operating company in California and affirmed by practically every other refiner, indicates that the larger companies expect to be drawing on stocks during the greater part of the coming year. This position does not seem to be unduly optimistic, notwithstanding the fact that several promising wildcat areas exist at the present time. The Union's new ditsrict at Compton is still undefined and, while it will undoubtedly prove to be a good field, the producing area seems limited to the Union, General Petroleum and Shell Oil Companies. There has, of course, only been a limited amount of drilling done to date and future developments may change the outlook very materially. It would be highly advantageous, in view of existing conditions, if these companies could reach some kind of agreement to allow this crude to remain in its natural reservoir until the present high stocks are substantially reduced, but, because of the fact that both the General Petroleum Co. and Shell Oil Co. can use this additional crude to advantage, it is not believed that any such agreement could be mutually agreed upon.

It has been openly stated on several occasions by well informed refiners that several companies will experience a mild gasoline shortage late next summer unless new production is secured. If this is correct, and it appears to be founded on facts, the Shell Oil Co. will probably be hit the hardest. This company has erected several hundred service stations during the past year and is faced with a much greater demand for its refined products than existed before their installation. The company has enjoyed a very substantial production at Long Beach and Santa Fe Springs during the past year and as a result has been able to take care of its requirements. The company's production at Santa Fe Springs has fallen off considerably in conjunction with the general decline throughout the field but its output at Long Beach, although still about 50,000 bbls. a day, has not yet started to drop. The company apparently appreciates its position as it is now purchasing crude in the open market and will undoubtedly continue to do so for some time. In view of the increased needs of the Shell and the expected decline at Long Beach, it can be seen that the company would be quite reluctant to enter into any gentlemen's agreement respecting future production. The Shell has several thousand acres of land under lease throughout the entire State and there is hardly a wildcat being drilled, in southern California, especially, that would not benefit this company, if brought in.

Wildcat Areas Active

There has been at least one new field opened up each year in California since 1917, and, although the current year is still young, several wildcat areas give promise of maintaining this record. There is a very persistent rumor, notwithstanding statements to the contrary, that the Pan-American has secured production in its El Segundo wildcat, No. 1 Pacific Southwest. There is a considerable amount of crude present in the sump but officials of the company maintain that this deposit has resulted from oil used in circulating in an effort to loosen a thousand feet or so of tubing which had become stuck. The area in the vicinity of this well has been turned down by several prominent geologists as unfavorable, one report even being dated as far back as 1917. The Standard Oil Co. has considerable acreage nearby and is making preparations to drill three test wells, one of them about 2 miles northeast of the Pan-American test. It doesn't seem hardly possible that the Standard would pursue this policy unless conditions were very favorable.

This area is not the only promising territory at the present time, however, as considerable interest is manifested in the attempt of the Oakridge Oil Co. to secure production at Bandini. This company secured an excellent core some time ago in its wildcat, No. 1 Rossi, and, although unable to complete it as a producer, because of a troublesome water sand, company officials are not in the least discouraged. On the contrary, they are so sure that a field exists nearby that preparations are being made to drill two additional wells. Practically all of the major companies have acreage under lease secured over a year ago and one, the Associated Oil Co., has decided to thoroughly test out its holdings before relinquishing them. The M. & H. Oil Co. drilled its Bandini wildcat to 4,662 feet and cemented through perforations at 4,530 feet. The company, because of financial difficulties, was not in a position to continue operations and the Associated, having considerable acreage west and south of the well, has decided to deepen it, which will be to the mutual benefit of both.

If these two highly promising areas, El Segundo and Bandini, are not productive and no other producing areas are opened up during the year, higher prices will undoubtedly prevail well into 1926.

Motorists throughout the State, by concerted action, are demanding an investigation of the two recent 2-cent increases in the price of gasoline and, although the consuming public cannot comprehend the reason for any increase, operators all look for higher prices both for crude and refined oil within the next six months. Predictions are freely made that heavy crude will advance to at least $1.50 a barrel and light crude (35 degrees and above) to $2.50 before the close of the year, while gasoline, retailing at the present time at 17 cents a gallon, exclusive of the State tax of 2 cents a gallon, is expected to be sold for at least 25 cents a gallon before the present year comes to a close.

Torrance

The recent increase in the price of crude will undoubtedly stimulate development work throughout the State in general but its effect will probably be reflected much sooner in the development of Torrance than elsewhere. The Torrance crude is very desirable, especially for its yield of high grade fuel oil. It is claimed that most of the residuum resulting from the distillation of Long Beach and Santa Fe Spring's crude and sold as fuel oil does not have the heating qualities of Torrance or San Joaquin Valley crude. The initial production of new wells in Torrance, although never unusually large, has been gradually getting smaller for some time until at present a 1,000-bbl. well is an unusually good completion.

The Chanslor-Canfield Midway Oil Co., the largest operator in this district, showed the greatest amount of development work during the past week. In addition to actually bringing in two wells, the company started making preparations to complete several others and erected five new rigs on its various leases. The company's most successful completion was No. 28 Torrance, drilled to 3,700 feet and finished with an 8¼-inch oil string landed on bottom. The initial daily output of 750 bbls., which tests 24.8 degrees and shows a cut of 3 per cent, is flowing through a ¾-inch bean under a pressure of 210 pounds.

The company swabbed in No. 2 Kettler after finishing it with an 8¼-inch oil string landed on bottom at 3,780 feet, but was only rewarded with a small well. It flowed for 10 hours following its completion and put 300 bbls. into storage during this period but finally sanded up. During the latter part of the week it was put on the beam and pumped 275 bbls. a day of clean 23.2 gravity oil. Number 17 Torrance started to flow from 3,641 feet but sanded up shortly after and is now being cleaned out. No. 24 and No. 27 on the same lease are both being prepared for production, the former having been drilled to 3,770 feet and the latter to 3,775 feet. Number 19 Torrance has also been finished and will probably be recorded as a completion some time within the next two or three weeks.

Water Delays Completion

The company was not entirely successful in setting a cement plug in No. 20 Torrance and the completion of this well will, as a result, be held up until water difficulty has been overcome. The well was originally drilled to 3,782 at feet, at which depth bottom water was encountered and in an effort to exclude the water, a cement plug was set at 3,715 feet. The company erected three new rigs on its Torrance lease and two more on its Kettler lease during the past week and is pushing ahead the development of the latter quite rapidly. There are 10 active drilling wells on the Kettler lease with rigs standing for six more and 11 drillers on the Torrance lease with rigs erected for five more. The Biltmore Oil Co. has bailed a lot of mud and heavy oil out of its north line well and, since no water has been encountered to date and there is a gas pressure present of 150 pounds, there is a possbliity that at least a small pumper may be secured. This showing in the Biltmore Oil Co.'s No. 1 apparently indicates that the Star Petro-

(Continued on Page 102)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

Eurana, January 28, New York, crude	68,703
John D. Archbold, Jauary 28, New York, crude	140,216
W. S. Rheem, January 29, New York, crude	91,267
Agwisea, January 29, New York, crude	96,727
La Brea, January 29, Philadelphia, refined	69,980
Samuel Q. Brown, January 30, New York, crude	74,423
Algonquin, January 30, New York, crude	69,093
Walter Jennings, January 30, New York, crude	111,497
San Jeronimo (Br.), January 30, Tampico, crude	91,609
Pennsylvania Sun, January 31, Philadelphia, crude	90,304
J. N. Pew, January 31, Philadelphia, crude	92,506
Argon, January 31, New York, crude	77,381
Cecil County, January 31, New York, crude	65,072
Dixie Arrow, February 1, New York, crude	77,154
Miller County, February 1, Philadelphia, crude	75,861
Agwipond, February 1, New York, crude	83,667
Cape Ann, February 2, New York, crude	71,905
Coastwise	
Doroche, February 1, Martinez, crude	77,200
Alden Anderson, February 1, Avon, crude	68,742
W. S. Miller, February 1, Richmond, crude	71,498
Montebello, February 1, Martinez, crude	79,608
La Purisima, February 2, San Diego, refined	9,071
Exports	
Akera (Br.), January 30, Balboa, fuel	41,906
La Habra (Nor.), February 1, Balboa, fuel	60,767
From San Francisco	
Col. E. L. Drake, January 30, Portland, refined	31,976
R. J. Hanna, February 1, Grays Harbor, fuel	71,413
S. C. T. Dodd, February 2, Paulsboro, refined	78,451
El Segundo, February 3, Portland, refined	31,652
Capt. A. F. Lucas, February 3, Portland, refined	25,986
Atlas, February 3, Aberdeen, refined	9,254
H. T. Harper, February 4, Point Wells, refined	27,092
From Gaviota	
W. S. Porter, January 30, Linnton, fuel	51,790
From Port San Luis	
La Placentia, February 1, Vancouver, crude	73,786
Oleum, February 2, San Francisco, fuel	38,140

Getting Steel Castings Next Door—

Many of the manufacturers of oil field tools are finding the Oklahoma Steel Castings Company of great convenience to them.

"It is like having your steel foundry next door," said a prominent manufacturer recently. Alterations, changes in design, rush orders are all greatly facilitated over the old practice of sending East for steel castings.

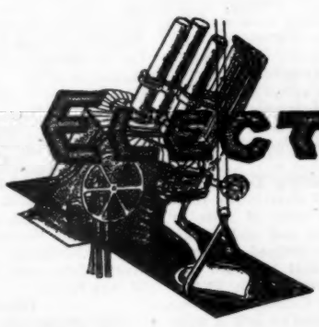
The location of the company's foundry in the center of the Mid-Continent Field also enables many manufacturers to keep their patterns in their own storeroom, rather than at a distant plant.

The close proximity of the foundry likewise encourages the working out of many problems that could not be carried to a successful conclusion if the designer had to deal with a foundry at a distant point.

Not only this convenience, but the surety that the Oklahoma Electric Steel Castings are of the highest quality and will give steady performance over a long period, is enjoyed by the patrons of this company.

A tool wrench which is cast regularly by us for a prominent manufacturer.

We invite you to send or bring us your problem, insuring you competent advice and service and quality of steel that cannot be surpassed.



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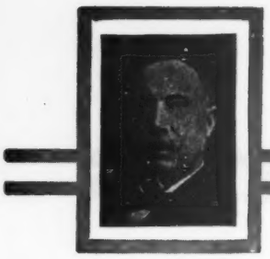

Pennsylvania-West Virginia

By D. S. Wakenight

Little new work outside of West Virginia. Manufacturers Light & Heat Co. swabs 25 bbls. from Wetzel County well. Possible Cow Run extension in Tyler County. Southwestern Ohio depends on deep territory. Green County chief development in southwestern Pennsylvania. Deep test progress.

PITTSBURGH, Pa., Feb. 11.—Since the Eastern fields were last reviewed nothing out of the ordinary occurred in any section. The posted quotations for credit balance remained unchanged, giving rise to the opinion in some quarters that in all probability there would not be another advance in the near future. Those who claimed they could not afford to drill when the market was below $4 are not making a strenuous effort to start new work. The cold weather is proving a hindrance, as well as holding up the completion of wells now past due. While it is true that in some sections there is a revival of operations it is by no means general. If the new work starting in West Virginia is eliminated the amount in southwest Pennsylvania and southeastern Ohio would be almost negligible.

Developments of the Week

Development work is again starting up in a number of counties in West Virginia, in sections where there has been practically nothing doing for more than a year. In Sardis district, Harrison County, the Clarksburg Light & Heat Co. has a fifth sand gasser on the Lettie Q. Gaines farm. In the same district, the same company is drilling a test on the Elma J. Roby farm. In Walton district, Roane County, the United Fuel Gas Co.'s test on the Rebecca Jarvis farm is a gasser in the Big Injun sand. In Geary district, the same company has another of the same kind on the T. V. Ashley farm. The Morley Oil & Gas Co.'s No. 3 on the M. E. Morley farm is a gasser in the Big Injun sand. In Washington district, Calhoun County, the Hope Natural Gas Co. got a Big Injun sand gasser at a test on the John Arnold farm. It is a light gasser in the salt sand. The same company is testing for oil in the same formation on the W. L. Taylor farm.

In Center district, Wetzel County, the Hope Natural Gas Co. drilled deeper into the Gordon sand its test on the Mary Cain farm. It is showing light and will be shot and tested. In Church district, the Manufacturers Light & Heat Co. has swabbed 25 bbls. from its test on the S. M. Shriver farm. In Liberty district, Marshall County, the Marshall-Preston Oil & Gas Co.'s test on the William Logson farm is a gasser in the Gordon sand.

Braxton County

Operations in Braxton County are increasing. In Birch district, Braxton County, the Philadelphia Oil Co.'s first test on the G. B. Howell farm is a duster and the second a gasser in the Gordon sand. In the same district, J. C. Timms & Co. have a salt sand gasser on the Susan Baker farm. The Mill Fork Oil & Gas Co.'s test on the C. R. Bourne farm is a gasser in the Big Injun sand. In Otter district, the West Virginia Central Gas Co.'s test on the William M. Lockard farm is dry in all sands.

In Murphy district, Ritchie County, J. F. Deem & Co. have now drilled a test on the William Deem farm through the Big Injun sand. Nothing was found in the lower sand and only a light show in the Maxon sand. In the same district, the Hopen Natural Gas Co. has a light show of oil in the Maxon sand. In Lincoln district, Marion County, the Fairmont Gas Co. has a fifth sand gasser at a test on the Denney Brock farm. In Troy district, Gilmer County, the Carnegie Natural Gas Co.'s test on the H. L. Farnsworth farm is dry and abandoned. In Union district, Wood County, the Larkins Oil Co. has a very light pumper in the second Cow Run sand on the McTaggart heirs' farm. In Lafayette district, Pleasants County, Albert Neely's No. 3, on the Amos Smith farm, is dry and abandoned. In Union district, Lincoln County, the Superior Gas Co. completed a Big Injun sand gasser on the G. H. Adkins farm.

Light Pumper in Doddridge

In Central district, Doddridge County, the Hope Construction & Refining Co. has completed in the Big Injun sand a test on the Mark Smith farm. It is showing for a 10- or 12-bbl. pumper. On the head waters of Sugar Creek, Meade district, Tyler County, H. L. Lambert's No. 7 on the A. H. McGinnis farm, is a duster. On Indian Creek, near Braden pump station, the American Oil Development Co. completed in the Gordon sand a test on the R. Thompson farm, a gasser. On Laurel Creek, Union district, Wood County, Park Bowser's test on the Brown heirs' farm is not good for more than 2 bbl. a day in the Berea grit. On the waters of Sancho Creek, Centerville district, Tyler County, the Carter Oil Co.'s test on the Jacob Hamilton farm is good for 5 bbls. a day in the Cow Run sand. This location is 1½ miles northeast of production. There is some new work starting in that locality and may lead up to the discovery of some new Cow Run territory.

Starting a Wildcat

On the east bank of the Ohio River, in Graham district, Mason County, the United Fuel Oil Co. is rigging up at a wildcat on the William Roush farm. The object is to see if the east side of the river can be connected up with some light pumpers on the Ohio side. On the Volcanic tract in Walker district, Wood County, the Hope Construction & Refining Co. has pulled the casing at its deep test and will not test for oil in the Gordon sand. This well was previously reported as having been filled up to the bottom of the Gordon sand. On Buckeye fork of Cobb's Creek, Washington district, Lincoln County, A. G. Lawrence has drilled No. 8 on the R. W. Pauley farm through the Berea grit, good for 4 or 5 bbls. a day. On Elk River, Big Sandy district, Kanawha County, Barnhart & Taylor started to drill an important test on the Noah Snyder lot. On the same stream and in the same district, J. O. Jackson & Co. have the rig completed for a test on the F. A. Summers farm. Eight miles northeast of Pine Grove, Grant district, Wetzel County, the Victor Oil & Gas Co. drilled its test on the J. W. Miller farm through the Gordon sand to a total depth of 3,034 feet. It is a very light pumper, scarcely little better than a dry hole.

Starting and Drilling Tests

In quite a number of districts in West Virginia there is test work of more or less importance starting and under way. Most of this work is in defined territory, initial tests on farms that have not previously had any production. In Ravenswood district, Jackson County, the Henderson Oil Co. has started to drill a wildcat on the Hugh V. McCoy farm. It is shut down on account of not having casing. In Smithfield district, Roane County, the Carter Oil Co. is rigging up on the Simms heirs' farm. The United Fuel Gas Co. has moved a drilling machine to a location on the W. M. Roush farm, in Graham district, Mason County. This can be regarded as a test of some importance. Mason County has no production at this time. The same company is due in the sand at a test on the T. V. Ashley farm in Geary district, Roane County. The road to a location on the J. P. Long farm has been completed. In Washington district, Calhoun County, the Hope Natural Gas Co. is drilling at 2,000 feet on the John Arnold farm. The same company is drilling on the Millie Griffin farm. In Meade district, Tyler County, S. A. McCullough is down 700 feet and fishing on the C. F. Flesher farm. In Murphy district, Ritchie County, the Hope Natural Gas Co. is rigging up on the D. M. V. Phillips farm.

Skidding the Rig

In Eagle district, Harrison County, the Pittsburgh & West Virginia Gas Co. has abandoned the hole and is skidding the rig at a test on the Harriett Michael farm. A long fishing job preceded the decision. In New Milton district, Doddridge County, the Philadelphia Oil Co. started to drill on the Eliza C. Wilson farm. Newton Cayton & Co. are due in the Gordon sand on the T. R. Snyder farm, in Collins Settlement district, Lewis County. In New Milton district, Doddridge County, the Engle Run Oil Co. is rigging up on the D. Adams farm. In Curtis district, Roane County, R. D. Cummin is rigging up at a second test on the P. H. Milhoan farm. In Smithfield district, the Carter Oil Co. has started to drill on the Simms heirs' farm.

Roane and Calhoun Active

The United Fuel Gas Co. has the roads completed to locations on the J. P. Short and W. G. Carper farms, in Geary district, Roane County. In Washington district, Calhoun County, the Hope Natural Gas Co. started to drill on the Owen Hicks farm and is building rigs on the J. N. Vincent and D. K. Chenworth farms. The same company has made locations on the John F. Shafer, Mary E. Johnson, J. A. Moss and Charles E. Johnson farms. Both Roane and Calhoun County show more new work under way and starting than in more than two years. In Church district, Wetzel County, the Elms Gas Co. is building a rig on the C. C. Rush farm. The Orndoff Oil & Gas Co. has a rig up on the F. B. Pettit farm. In McClelland district, Doddridge County, the Alvy Oil & Gas Co. is due in the Gordon on the W. N. McIntyre farm. In West Union district, Carter Oil Co. started to drill a second test on the Isaac Smith farm. In Murphy district, Ritchie County, Hays & Roberts started to drill on the W. M. Wanless farm. In Center district, Wetzel County, the Hope Natural Gas Co. is fishing at 3,172 feet on the Mary Cain farm. In Liberty district, Marshall County, the Manufacturers' Light & Heat Co. is building a rig on the Lucinda Burge farm and rigging up on the A. Wendt farm.

Cabell County

Gas companies are still fairly active in Grant district, Cabell County. All late completions, except one dry hole, have come in gassers in the Berea grit. The dry hole was drilled for a producer in the Cow Run sand. The Cabell County Pool was discovered about 20 years ago when the Guyon Oil Co. drilled a well into the Big Lime and got a good producer. This discovery created a good deal of excitement but it is was short lived. The wells declined rapidly and the production never reached 1,000 bbls. a day. In an effort to extend the producing limits of the pool many dry holes were completed. At present the production is very low. Last year the total production of the pool amounted to only 4,084 bbls., an average of 337.33 bbls. a month. The posted price for this grade of crude is $2.05 or $1.95 below the Pennsylvania grade. The oil is strongly impregnated with sulphur and in quality inferior to Pennsylvania or the two Somerset grades.

Southeastern Ohio

Operations in the southeastern Ohio fields are not responding noticeably to advance in the market. These fields are completing fewer wells than any other sections and, what is more, nearly all light pumpers. Since the first of the month the production has been smaller than for any like period since the development work began in that division. The new production in January amounted to but 199 bbls. and unless there is a decided improvement it will be less in February. With a return of spring development work is expected to revive. If there is an increase in new production it will have to come from deep territory. For more than a year the shallow sand territory has not furnished anything better than light pumpers.

In Lot 10, Madison Township, Licking County, W. W. & A. T. Wehrle completed No. 4 on the Clem R. Fetty farm, not good for more than 2 or 3 bbls. a day in the Berea grit. One-half mile southeast of the test on the J. T. Campbell farm, in Section 9, Lawrence Township, Washington County, Frank Edgar & Co. started to drill a test on the Harvey Thomas farm. In Section 30, Deerfield Township, Morgan County, Ralston & Maynard's test on the John Banks farm is a duster in the Berea grit. In North Township, Harrison County, 800 feet south of production, on the Harrison farm, H. B. Cameron & Co. completed in the Berea grit a test on the Arbaugh heirs' farm, a duster.

In Section 2, Rush Creek Township, Fairfield County, the Ohio Fuel Supply Co. started a test on the Charles Jonston farm, one-fourth of a mile northeast of production on the J. J. Ashbaugh farm. In Section 22, Franklin Township, Licking County, Ralph Brothers are drilling No. 7 on the Boy Scouts' farm. In Section 13, Bowling Green Township, the Midland Oil Co. started to drill a test on the Frank L. Orr farm. In Madison Township, Perry County, the Atha Oil Co. is building the rig for No. 8 on the I. H. & A. H. Melick farm.

In Section 7, Springfield Township, Muskingum County, the Mid-East Oil Co. got a very light show of oil and a very little gas at its test on the Clarence Perine farm. It is getting ready to plug the hole and abandon it. In Section 21, Warren Township, Washington County, the Skipton Farm Oil Co. drilled its No. 8 on the G. U. Williams farm through the first Cow Run sand, not good for more than 2 bbls. a day.

Southwest Pennsylvania

To eliminate the work in Greene County it would leave very little in new work in the southwest Pennsylvania fields. In Whitely Township, Greene County, the Manufacturers' Light & Heat Co. got a gasser in the Big Injun sand on the J. L. Johns farm. In Morris Township, the Greensboro Gas Co. completed a Gordon sand gasser on the Thompson heirs' farm. Greene County has more test work starting than Washington, Allegheny and Beaver Counties combined. In Morris Township, the Manufacturers' Light & Heat Co. is building a rig on the Stephen Gardner farm. In Springhill Township, the Carnegie Natural Gas Co. has drilled to a total depth of 3,500 feet on the F. R.

(Continued on Page 100)

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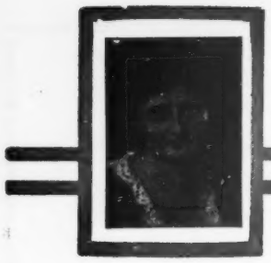


North Louisiana-Arkansas

By M. L. Vaughn

Humphreys Oil Co.'s No. 1 Hays, Union County, 200-bbl. pumper; Lyon Oil & Refining Co.'s No. 2 G. E. Murphy, 275 bbls.; Tidal Osage Co.'s No. 3 Vestal swabs 500 bbls. Gulf Refining's No. 1 Harrison, Ouachita County, flows 300 bbls.; Lewis & Clark's No. 5 Perry, flows 150 bbls. Activity in Bossier.

SHREVEPORT, La., Feb. 11.—An increase of 1,640 bbls. in the daily average production for the past week in the Arkansas Field was largely offset by a decrease of 885 bbls. a day in North Louisiana, leaving the increase from the entire field only 755 bbls. a day. Both the heavy and light oil territories in the Smackover Field are picking up again, while the El Dorado and Stephens pools continue to show a slight decline. Runs for the past week averaged 52,990 bbls. in North Louisiana and 113,885 bbls. in Arkansas, distributed as follows:

North Louisiana	
Caddo light	8,785
Caddo heavy	2,355
De Soto and Red River	5,565
Elm Grove	1,010
Haynesville	21,375
Homer	8,610
Bellevue	5,290
Total Louisiana	52,990
South Arkansas	
El Dorado	14,940
Smackover light	23,640
Smackover heavy	72,515
Stephens	2,790
Total Arkansas	113,885
Total both fields	166,875
Total last week	166,120
Increase	755

"Dollar Oil"

With another advance in the price of crude in this territory, "Dollar Oil" is again the slogan in Smackover, where for many months the price paid for heavy oil was only 40 cents, which did not pay the expenses of production. The advance was first posted by the Standard Oil Co., raising all grades 15 cents and an additional 10 cents for Bellevue, and was immediately followed by all other pipe line companies, including the Gulf in the East El Dorado Field, and the Atlantic in Stephens. This is the fourth advance since the last of December and brings the high grade of light oil in Caddo, Homer, El Dorado and De Soto up to $1.70 and nothing less than $1 in any field.

Bossier Parish Busy

Interest has been revived in development in the north end of Bossier Parish in the vicinity of the Lloyd Harris well, which is still producing at the rate of 500 bbls. a day. The well has been opened at intervals and the oil carried by pipe line to the Texas Pipe Line Co.'s main line, about 5 miles distant, but conservation laws prevent continuous running of the oil on account of the gas wastage. Earthen storage is being provided for approximately 700,000 bbls. of oil and as soon as a method can be devised for marketing or profitably disposing of the gas in this district, the Lloyd Harris and other wells in this vicinity will be open and the future of this pool assured. Lloyd Harris' No. 4, offsetting the discovery well, was opened up during the past week and found to be making good heads of oil.

Among the operations of interest in the Lloyd Harris district is the Atlas Drilling Co.'s test on the Bolinger lease in Section 3-22-12. This well is 1 mile south and 5 miles west of the Lloyd Harris well, with structure clearly defined on all sides and checking high. Sales & Walker, who have drilled three gas wells in this territory and are confident there is oil here also, have purchased a half interest in the Atlas Drilling Co.s test and 400 acres of leases and are going to finish the well. They have contracted with the Oil Fields Gas Co. for their gas production. Confidence in the future of this territory has been evidenced by the Gulf Refining Co., the Atlantic Oil Producing Co., the Invincible Oil & Refining Co., the Triangle Drilling Co., the Simms Oil Co. and others by the purchase of acreage in the vicinity of the Atlas well.

Union County Completions

Five oil producers and one gasser were completed in this district last week and several new operations are noted. The Humphreys Oil Co. completed No. 1 Hays, Section 21-16-15, pumping 200 bbls. at 2,040 feet. The Humphreys Petroleum Co. brought in No. 1 L. Hicks, Section 20-16-15, flowing 200 bbls. through 2-inch tubing but the production has now decreased to 75 bbls. at 2,085 feet.

The Lyon Oil & Refining Co. made a 275-bbl. pumper of No. 2 G. E. Murphy at 2,090 feet, Section 8-16-15. Page and associates put No. 1 Holmes on the beam, Section 23-16-15, pumping 200 bbls. fluid, 50 per cent salt water at 2,010 feet.

The Tidal Osage Oil Co.'s No. 3 Vestal is swabbing 500 bbls. at 2,080 feet, Section 17-16-15. The Standard Oil Co. completed No. 3 McClanahan, Section 6-16-15, making 30,000,00 feet of dry gas with 960 pounds rock pressure at 2,274 feet.

Drilling Operations

A summary of operations last week in this district showed 24 wells waiting on standard rig to pump; 9 wells temporarily abandoned; 61 drilling; 9 rigging up; 23 derricks and 5 locations. The American Petroleum Corp. is arranging to deepen No. 2 Flenniken, which was completed about a year ago as a 750-bbl. well at 1,992 feet, Section 6-16-15.

The Arkansas Natural Gas Co. is drilling at 2,025 feet in No. 3 Ferguson, Section 6-16-15. Bement and associates are waiting on standard rig to pump No. 3 Murphy at 2,062 feet with 1,000 feet of oil in the hole, Section 21-16-15. Bond & Evans have derrick pattern on location for No. 1 Williams, Section 19-16-15. J. M. Clark has started four wells in Section 17-16-15, with derrick up for No. 1 Allgulf; 10-inch casing set at 65 feet in No. 1 Cook; rigging up No. 2 Cook and 10-inch casing set at 60 feet in No. 3.

George & Jones plugged back to 2,087 feet in No. 3 Young and are arranging to test at that depth, Section 18-18-15.

Hickman and others are moving in rig for No. 6 Graves, Section 3-16-15.

McFarland & Finck shut down No. 3 Lyell for water at 920 feet, Section 3-16-15. H. L. Morgan set 10-inch casing and drilled to 960 feet in No. 2 Polk & Ezell, Section 12-17-15. The Natural Gas & Petroleum Co. tested salt water at 2,290 feet in No. 2 G. E. Murphy, Section 8-16-15, but the well is now showing some oil and the company is arranging to drill in. It has taken over the El Dorado Natural Gas Co.'s No. 1 Tatum, Section 11-16-16 and is sidetracking 5 3/16-inch casing at 2,610 feet. The well was formerly completed as a 300-bbl. pumper.

The Pan-American Oil Co. tested No. A-4 Saxon dry at 1,985 feet, Section 4-16-16. The Phillips Petroleum Co. set 6⅝-inch casing at 1,940 feet in No. 4 Giller, Section 11-16-15. The Pure Oil Co. is arranging to test No. 4 Craig at 2,040 feet and set 12½-inch casing and drilled to 150 feet in No. 5, Section 15-16-15. Ramage and others set 10-inch casing and drilled to 1,310 feet in No. 2 G. F. Murphy, Section 21-16-15. Ray and others tested No. 1 Long dry at 2,120 feet and are pulling liner to drill deeper, Section 28-16-14.

Ouachita County Completions

Eleven producers and one failure were reported completed from this district the past week. Burton, trustee, put No. 6 Hughes on the beam with 90 bbls. production at 2,295 feet, Section 28-15-16. In the same territory the Forest Oil Co. completed No. 2 Minor, Section 29-15-16, flowing 85 bbls. the first 12 hours at 2,275 feet. The Gulf Refining Co. completed No. 1 Harrison, Section 30-15-16, flowing 300 bbls. through 2½-inch tubing at 2,300 feet; No. 2 Meek, Section 19-15-16, pumping 150 bbls. at 2,290 feet.

Lewis & Clark completed No. 5 Perry, Section 24-15-17, flowing through 2½-inch tubing 150 bbls. at 2,305 feet. The Magnolia Petroleum Co., flowing 90 bbls. through 2½-inch tubing at 2,250 feet, Section 32-15-16. Frank Masters has moved rig off No. 1 Bryant at 1,900 feet and will probably abandon the well, Section 19-15-16.

Myer and associates completed No. 2 fee, Section 30-15-16, flowing 35 bbls. through 2-inch tubing at 2,280 feet. The Peer Oil Co. put No. 1 Mullins on the beam, Section 27-15-16, with 65 bbls. production at 2,325 feet.

The Smith Refining Co. completed No. 5 fee, Section 30-15-16, flowing 100 bbls. through 2½-inch tubing at 2,280 feet. The Texas Co. completed No. 1 Lagrone, Section 30-15-16, flowing 120 bbls. at 2,275 feet. Wingfield and associates put No. 1 Fincher on the beam at 2,255 feet with 60 bbls. production, Section 32-15-16.

Drilling Operations

There was a remarkable increase in drilling activity in this field last week and a summary of operations shows 5 wells waiting on standard rig; 11 temporarily abandoned; 67 drilling; 11 rigs up; 18 derricks and 5 locations. A number of companies are going back into wells completed as small producers or gassers for the deeper sands which accounts for much of the new activity.

The Gulf Refining Co. is drilling a number of wells in this district. It is drilling three more wells on the Harrison lease with two already completed, Section 30-15-16; has rig up for No. 3 Meek; waiting on standard rig to pump No. 3 Solmson at 2,287 feet, Section 29-15-16; drilling at 60 feet in No. 2 W. F. Patton and has 10-inch casing set at 280 feet in No. A-1 Patton; waiting on standard rig to pump No. A-4 Umpstead at 1,975 feet, Section 33-15-15, in the heavy oil territory; and has a fishing job at 1,530 feet in No. A-2 Werner.

Hale and associates are setting 6-inch casing at 2,210 feet in No. 2 Ward, Section 25-15-17, and have taken over No. 1 Myer Estate which was formerly completed as a 25,000,000-foot gasser at 2,100 feet and are calling the well No. 1 Solomson, drilling deeper, Section 29-15-16.

Hunt and associates are arranging to drill No. 1 Myer Estate deeper, Section 29-15-16, formerly completed estimated making 10,000,000 feet of dry gas at 2,020 feet.

Walker and others tested No. 1 Mangus dry with a small show of oil at 2,315 feet, tested dry at 2,340 feet and has shut down waiting orders, Section 24-15-17. Whittiken and others are deepening No. 2 Hardin and are bailing to test at 2,290 feet, Section 28-15-16.

The Texas Co. is drilling plug at 2,195 feet in No. 2 Lagrone and has derrick pattern on location for No. 3, Section 30-15-16.

Stephens Field

Columbia County Area: The Atlantic Oil Producing Co. has set 12½-inch casing at 60 feet in No. 4 Jackson, Section 25-15-20. It completed No. A-1 Webber, Section 25-15-20, pumping 25 bbls. at 2,115 feet and has rig up for No. 4. The Gulf Refining Co. set 10-inch casing at 80 feet in No. 1 Buffington, Section 24-15-20.

Ouachita County Area: The Ohio Oil Co. abandoned derrick for No. 1 Curry in Section 19-15-19.

Arkansas Wildcats

Grant County: The Texas Co. is drilling at 2,100 feet in No. 1 Chicago Land & Timber Co., Section 14-6s-13w.

La Fayette County: L. K. Wilburn and others drilled No. 1 Hughes to 382 feet with cable tools and abandoned the hole, Section 21-19-23.

Nevada County: Burnham and others tested No. 1 C. D. Perry with no show in 2 feet of sand at 560 feet, Section 12-15-22. Dee and associates are rigging up No. 1 Johnson, Section 27-14-21. The Kenark Oil Co. is down 1,025 feet in No. 1 White, Section 11-13-21.

Louisiana Wildcats

Caddo Parish: Few rigs are left running in the Caddo Field and there is no new work in sight. In the Pine Island district, the Fortuna Oil Co. completed in the chalk rock is arranging to pump No. 12 Herndon in Section 22-21-15, and the Alabama Petroleum Co. is down 3,640 feet in its deep test on the Barlow lease in Section 5-21-15.

Brewer & Sewall are drilling ahead at 2,595 feet in No. 1 Sharp, a wildcat test 10 miles northwest of Shreveport in Section 15-18-16. The Crude Oil Co. is drilling at 2,360 feet in No. 1 Alexander & Ledbetter, Section 27-16-14, 10 miles south of Shreveport, in wildcat territory.

Claiborne Parish: The Ohio Oil Co., after testing dry at various depths in No. 1 Crump, Section 13-23-8, in the Haynesville territory, has finally abandoned the test at 2,855 feet. The Standard Oil Co. has abandoned No. 25 Shaw, Section 30-21-7, in the Homer district, at 850 feet. No other wells are drilling in this territory.

Bellevue Field: Bliss & Weatherbee completed fee No. A-11 in Section 15-19-11, pumping 15 bbls. at 420 feet. The Louisiana Oil Refining Corp. completed fee No. D-12, Section 15-19-11, pumping 40 bbls., 20 per cent salt water, at 390 feet.

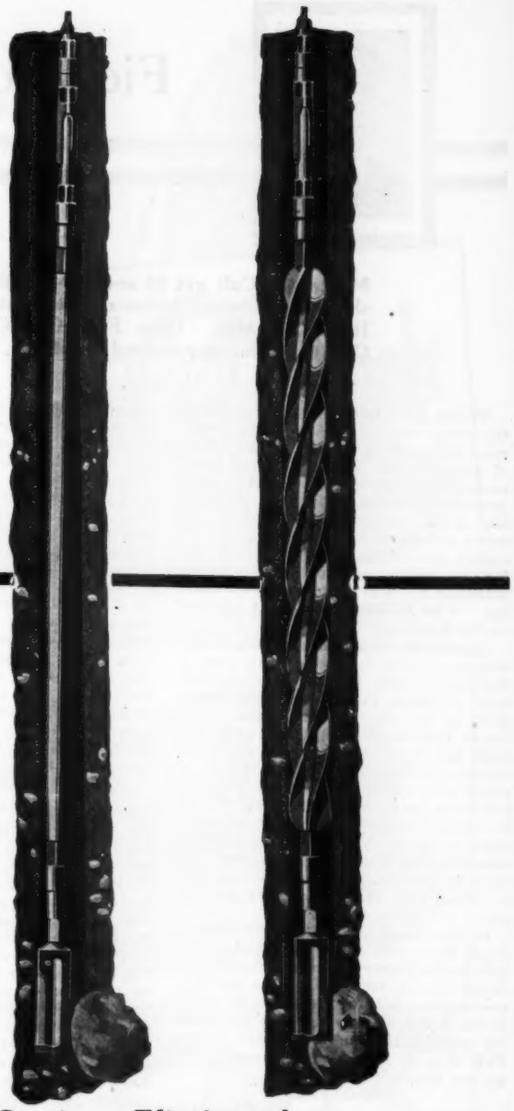
Bliss & Weatherbee are drilling at 300 feet in fee No. A-11, Section 15-19-11; the Gulf Refining Co. has set 8-inch casing at 85 feet in No. 10 Bliss & Weatherbee and made a location for No. 11 in Section 10-19-11, and Olmstead and others are drilling at 200 feet in Strange No. A-14, Section 23-19-11.

R. O. Roy completed two more wells on the Scandland lease, Section 15-19-11, No. 28 at 392 feet and No. 29 at 379 feet, and is arranging to pump. The Standard Oil Co. has completed and is arranging to pump No. 8 Bliss & Weatherbee in Section 10-19-11, and is drilling at 150 feet in No. 2 Smith, Section 15-19-11.

Bienville Parish: Interest has been

(Continued on Page 120)

Note how it prevents crooked holes



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SPIRAL STEM

SPIRAL ROTARY DRILL COLLAR

Fields of the Central West

By Whit

Masters & Colt get 90 and 160-bbl. producers in Hotmire Pool, Pike Township, Jay County, Indiana. Associated Producers have only completion in Illinois, 10 bbls. Ohio Fuel Gas Co. wildcat, Perry Township, Hocking County, Ohio, may extend territory. Eastern Kentucky plans.

FINDLAY, Ohio, Feb. 11.—During the early part of the week in review most drilling wells in the old Lima Field of northwestern Ohio were shut down, as one of the worst storms of the winter prevailed. On account of the ice forming on the drilling cables and on the crown pulleys, it was taking a hazardous chance of running the drilling tools and for that reason no completions were reported in the field up to Saturday morning. Work to some extent was renewed on Wednesday.

Quite a bit of activity prevails in the Shiloh gas field, in the northern part of Richland County and the southern portion of Huron County, north of Mansfield, in the Central Ohio Field. The Shiloh Pool itself is considered about defined but there are numerous inside locations yet to drill. While this pool is pretty well drilled over, the probabilities are other pools of the same kind will be discovered during the year in many other parts of the Central Ohio Field, especially the Berea sand area and possibly in the Niagra formation, the lime in which the Shiloh gas field gets its gas.

In the town of Shiloh, Mitchart & Noah have what would be called a dry hole on the Drury lot, in the regular gas formation. A very shallow gas pay was encountered, but the formation in which it was found has never shown any staying qualities, therefore it goes as a duster, This firm is furnishing the town with its gas supply.

Shiloh Field

Twenty-one completions were reported for the week from the Shiloh Field, a number of which were outside of the defined territory, 9 dry holes and a dozen gas wells. In this township O. J. Davidson and others' Nos. 1 and 2 Steele-McBride lease, Section 2, were both light gas wells, with No. 3 drilling. The same firm drilled a dry hole in No. 1 F. C. McBride, Section 3. Brown, Henline and Warner's second well on the W. S. Champion, Section 12, is a duster. Coyle & Matthews' No. 3 Niffin, Section 1, is a light gas well. Hulse & Koontz' No. 1 Myers and No. 2 Nugent farms, both in Section 1, are light gas wells. Weidman and others' No. 1 Tully Brown, is a dry hole and their No. 2 D. Malone, Section 2, is a fair gas well, with No. 3 drilling. George Lacknett's No. 1 J. Gilger, Section 11, is a dry hole and No. 3 is drilling, and No. 2 was a gas well. Glass & Smith drilled a duster at No. 1 Barnes, Section 10, and C. A. Sandals could do no better in No. 1 on the Barnes, Section 11. C. E. Ozier and others Nos. 6 and 7 F. Seeman, Section 1, are both fair gas wells, with No. 9 drilling. No. 8 was reported last week.

J. H. Harmon, the well known operator of Mansfield, drilled a dry hole in a test on the H. A. Dowend farm, Section 15, Cass Township, Richland County. E. S. Getting's No. 1 J. Willett, Section 9, was also a dry hole. Bricker Bros. test on the Moritz farm, Section 1, is a gas well. H. Noble and others' second well on the Doctor Noble land, Section 1, is a fair gas well, as is Cuppler & Oziers' No. 3 on the Barnes. No. 4 same lease is drilling. C. E. Ozier and others contemplate the drilling a number of wells on holdings in the field.

In Bloomingrove Township, Richland County, 5 dry holes are reported. Hancock and others' No. 1 A. Firestone; C. J. Davidson and others' No. 1 A. Merton; same, No. 1 Maring; Barnhart, Graver and Berry's No. 1 Myers and Ashland, Ohio, parties' No. 1 C. Willis farm.

In Ripley Township, Huron County, O. J. Davidson and others drilled two dry holes, in Nos. 1 and 2 Emma Hale farm.

In Miflin Township, Ashland County, east of Mansfield, the Ashfield Gas Co.'s No. 4 on the Roy Culler farm, is esteemed at 200,000 feet gas. This company is developing a nice little shallow gas pool, and the Logan Gas Co., is reported getting the gas.

Hocking County Wildcat

Report from Perry Township, Hocking County, is that the Ohio Fuel Co. has a very nice oil showing in its wildcat well on the J. A. Friend farm, Section 27, which, if it proves a commercial producer, will add a large area of territory.

A test well was reported drilling by Bodds and others at the town of Galion, in Crawford County, but Frank Hamilton, field manager, reports the well drilled by the Weed-Hamilton Oil & Gas Co., which had reached a depth of 606 feet, where the well was shut down awaiting a string of casing. Mr. Hamilton announces the well will be drilled to the Trenton Rock to test all the known sands in that section. At the depth mentioned three showings of oil have been encountered and there is no doubt production will be found in the shallow formations like the Niagra lime and Berea sand. It will be some time before the Trenton is reached, for no holes in that vicinity have been drilled to the Trenton.

Illinois Field

Development work is badly hampered in all sections of Illinois, and but one well is reported for the week. This is the Associated Producers' No. 19 on the J. F. Snyder farm, Section 25, which found a 10-bbl. pay in the deep McCluskey sand at 1,812 feet.

Indiana Field

The Hotmire Pool along the line of Jay and Randolph counties, in the old Trenton Rock area of eastern Indiana comes to the front with two excellent producers, Masters & Colts' Nos. 12 and 13 on the A. Ritenour farm, Section 34, Pike Township, Jay County, which produced 90 and 160 bbls. respectively, making the two largest completions in the Central West Field for the week. Wells in this productive pool usually settle down to pumpers of from 12 to 20 bbls. and maintain that production for a long period. This is the best looking pool in Indiana at this time and early spring will see an active drilling campaign, not alone in the Hotmire Pool but all along the Mississinewa River from the Albany-De Soto Pool, in Delaware County to and across the Ohio line. The past few weeks has seen acreage leased along this stream. The advance in crude is spurring on the operator to secure as much acreage as possible.

Work has been retarded in the Eastern Kentucky fields, but there are brighter prospects ahead. Operators in the Big Sandy division and other parts of eastern Kenutcky have been hard hit by the low price of crude, consequently activity has been at a low ebb. The cost of moving material in the Lawrence-Johnson-Magoffin counties entailed such heavy expense there was no profit in drilling, but now that oil has taken the upward trend which will give a fair margin of profit one of the greatest drilling campaigns ever experienced in three counties is looked for. New territory will be developed, and those who have done barely enough drilling to hold their leases will become active again.

If the predietions of the wise ones come true, the price of oil will reach the peak attained in the year 1920, when the price of crude was the highest ever known, outside of the early days of Pennsylvania. They argue that there is or soon will be a shortage of oil in the United States, due to the rapid falling off of production in some of the gusher fields of the West, and the increasing demand for gasoline.

The Weir and Berea sands of eastern Kentucky are looked upon as one of the most important east of the Mississippi River at this time. The production of the wells is not large compared with some other fields of the country, but the quality of the oil and the life of the wells are favorable factors. The Weir sands wells show flush production of from 5 to 150 bbls., and the Berea from 2 to 5 bbls. and both formations are found at rather shallow depths, the big cost in development coming from the moving of material from the railroads to the leases, for in many instances the material must be trucked as far as 10 to 25 miles.

In the North Berea Field of Lawrence-Johnson County, only one completion is reported, a gas well showing around 500,000 feet, completed on the Lon Hewlett lease, near Cordell. Tom Hays, Louisa operator, has a well due for completion on the Wayne Moore farm, at the hamlet of Mattie, and as soon as completed the tools will be moved to another location near the head of the creek. In the Ayresville area, no completions were reported, but the Union Gas & Oil Co. has rigged up to start drilling No. 12 on the George Kelly farm, and locations have been made and tools are moving to No. 9 Martha Kelley and No. 11 Ben Ferguson, in the Ayresville-Kenton area.

In the South Berea Field, one completion was reported by the Short Fork Oil Co., in No. 3 M. H. May farm, estimated at 15 bbls. In the Margoffin County section, Harry Sipple and others are drilling No. 1 Julia Salyer farm, and the B. F. Syndicate is drilling No. 3 on the Con Salyer farm.

Word came from southern Michigan, that the Jackson County Oil & Gas Co. will start two additional wells on its block of leases near Deerfield and Petersburg, in the western section of Monroe County, and some 20 miles out of Toledo.

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Feb. 9.—Official figures of the crude oil production in the three main producing areas in southwestern Ontario for the last half of 1923 reveal a considerable decline from the same period last year. In the Petrolia-Enniskillen Pool in Lambton County, the production for the last six months of 1923 amounted to 32,603 bbls., compared with 33,332 bbls. for the same period of 1922. In the Oil Springs Pool, in Lambton County, the production for the last six months of 1923 was 20,858 bbls., compared with 24,676 bbls. for the last six months of 1922. In the Bothwell Pool, Kent County, the 1923 production (six months) amounted to 13,830 bbls., compared with 14,463 bbls. for the same period in 1922. Official figures covering the smaller producing areas, or the entire year's production for the various fields, are not yet available.

In the Ontario fields, deep drilling operations are progressing slowly on several locations. The Glenwood Natural Gas Co. well on the Hugh Shanks farm, Romney Township, west of Port Alma, has materials for pumping on the ground, but work seems to be at a standstill. The well still flows by heads, at intervals of about a week, the production thus secured amounting to about 55 bbls. To the east, the Union Natural Gas Co. No. 248, Truckenbrod farm, east of Port Alma, is rimmed down to the Trenton limestone. Some rough surfaces were, however, left in rimming, and further preparatory work will be necessary before it is considered safe to put in the casing. On the Mancell farm, Tilbury East Township, Union Natural Gas Co. No. 249 is drilling around 1,900 feet. Eugene Coste & Co. No. 6, deep test on the Malott farm, Lot 19, Con. 7 Tilbury East Township has a rig up and will start drilling early next week. This test is about 2 miles south of the town of Tilbury.

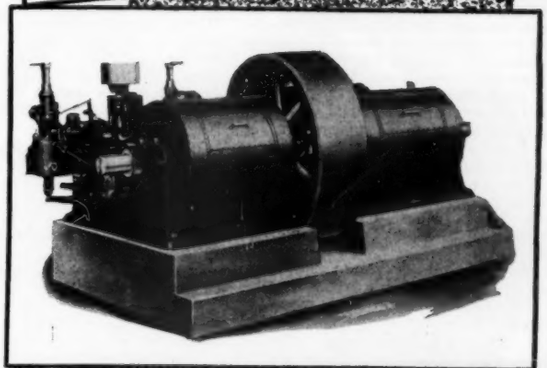
In Essex County B. Jasperson's No. 6 test for gas near Kingsville is reported ready to resume drilling, after a fishing job, and should finish inside about a week. In Elgin County the Dominion Natural Gas Co. No. 6 test for gas near Lakeview is reported again shut down. The Dominion Natural Gas Co. has made a location for a test for gas in the Simcoe district, Norfolk County, and Dave Laur is moving the tools to the location.

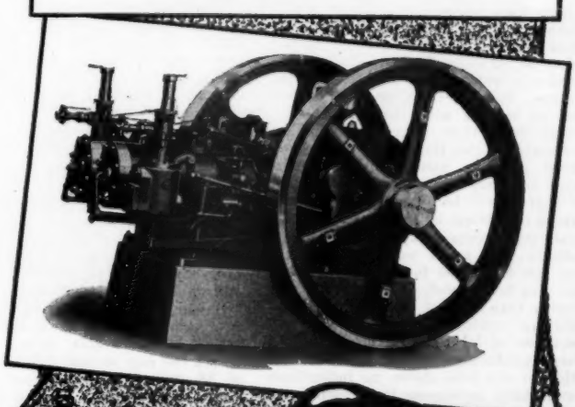
Oil Shale Deposits

D. Alberts, reported to be representing Utah and Colorado shale interests, is examining the oil shale prospects in the area on the Georgian Bay, in northern Ontario, near Collingwood. There are extensive shale deposits in this district, as well as some indications of oil and gas. Some shallow wells drilled at various times have produced gas from a depth of about 500 feet in quantities sufficient for a few houses. In 1859 a plant was erected and oil distilled from the black shale which was secured by quarrying, cordwood being used for fuel under the retorts; but owing to the development of gusher wells at Oil Springs shortly afterward, the shale venture was abandoned as unprofitable. In recent years the shale has been used for surfacing highways in the vicinity, the oil content being sufficient to form a sort of binder. The shale in the Collingwood district is reported to be higher in oil content than the Scotch shales. There are also extensive shale deposits out-

(Continued on Page 100)

Another Instance of Standardizing on "WESTERN" Engines





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——**and** on July 10th, 1923, we sold them nine 160 H. P. and two 60 H. P. "Western" Engines

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——**and again** on December 2nd we sold them two 160 H. P. "Western" Engines

——**and finally** on January 10th we sold them three 160 H. P. and one 60 H. P. "Western" Engines.

A total of 2620 H. P.—Name on request.

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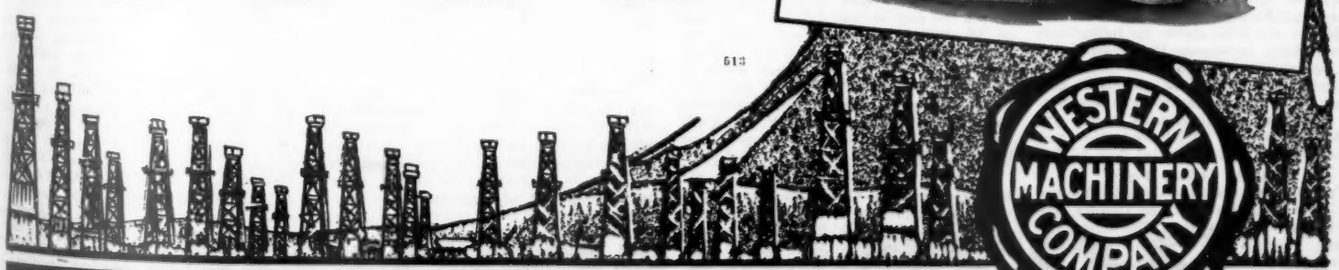

EFFICIENT DEPENDABLE POWER

WESTERN

North-Central Texas Field

By Dan F. Dugan

Archer County completions fail to materially increase field's production. Shappell Pool about balancing decline elsewhere in Wichita County. Gray-Hightower and Carbon pools in Eastland attracting attention. R. M. F. Company gets 1,500-bbl. producer and 500-bbl. well in Archer.

FORT WORTH, Tex., Feb. 11.—The North Central Texas Field continued its upward trend in production the past week with the total runs reported at 111,080 bbls. daily as against 110,425 bbls. for the previous week, an increase of 655 bbls. daily. This increase was made in the Electra district which exceeded its previous week's report by 735 bbls. and the Burkburnett Pool also made a gain of 795 bbls. daily. Eastland decreased 680 bbls. and Stephens County made a small loss of 245 bbls. daily.

An analysis of the daily production runs as reported for the past four weeks shows that the decided increase in drilling during that period has failed up to this time to increase materially the field's daily production as looked for by the majority of the operators. The consensus of opinion seems to be that the flush flow of the weekly completions is being offset by a decrease in the production of the older producers. This position is proven to some extent by Archer County's behavior this past week. Though it has increased its drilling development materially during the past four weeks and each week has reported many nice producing completions, yet its production report for the past seven days shows a small daily decrease.

Archer in Foreground

There were no developments of a sensational nature reported from any section of this field during the week. Archer County is still in the fore front with several semi-completions that have an appearance, judging from present indications, of making sensational producers. Several completions were reported that are showing better than the average commercial producer and drilling is being rushed in every section with the prospect that it will hold and possibly may increase its present daily output. Wichita County may increase is present producing condition in a small way but no great gains can be looked for from that territory. Its latest pool, the Shappell, will probably take care of the loss in the old producing territories, but it shows no indications of large initial production or a large producing territory. The south section of the field shows no indications of materially increasing its present production, as it costs too much money to wildcat in that deep lime producing territory and its producing completions during the past several months rarely exceeded 500 bbls. in initial production and rapidly decrease their initial flow.

Eastland County Pools

Two shallow pools, the Gray-Hightower and the Carbon, in Eastland County, are attracting some attention. The latest discovery, the Carbon Pool, is producing above 500 feet. The Rosenfield and others No. 1 Gilbert discovery well is producing 18 bbls. daily, six weeks after completion; the No. 2 is a 25-bbl well; the same company's No. 3 Gilbert is spudding.

Edwards and others will drill on the Mrs. Lee G. Poe lease, a half mile north of the Gilbert. Ablon and others will start a well within the next few days on the W. C. Couch lease, half a mile east of the Gilbert.

The well of Gilbert and others, No. 1 Holloway, half a mile south of the Gilbert, failed to strike sufficient production at the 500-foot level, though it encountered 18 feet of sand, and it will be drilled to 1,400 feet.

The Gray-Hightower Pool, 8 miles east of Eastland, continues to report some development. The Texas Co.'s No. 5 Gray-Hightower, is due for completion early next week and the Panhandle Oil & Refining Co. is drilling Nos. 10 and 11 on the same farm. There are now 12 producers on this lease at the 1,200-foot level.

The Gorman Field on the south line of Eastland County is resuming activity. Harrell and others will complete No. 1 Ross in the next few days, and Cull Moorman will start drilling No. 1 Shugart, offsetting Kirk & Brewer's No. 2 Shugart to the east, a producer. Kirk, Brewer & Wolf are starting the rig for the No. 3 Shugart.

In the Lake Eastland Field, Thompson & Sly are getting timbers on the ground for a well on the Spruill lease, northwest of the Jones tract where Turner & Clayton have two wells.

Mayhew and others' No. 1 Luse, south of Cisco, is being closely watched by the operators and it seems to be the general belief that a producer will be obtained. The test is reported as having 2,000 feet of fluid in the hole with a total depth of 3,525 feet.

Pulling of the pipe has commenced on the Texhoma Oil & Refining Co.'s No. 1 Blach, located in Block 5401 T. E. & L. survey, in Shackelford County. The well, which has been drilling for the past year, reached a depth of 4,025 feet, where it was given a 240-quart shot, but it failed to respond as a producer. The total depth is 4,033 feet.

Archer County Work

The outstanding feature this past week in Archer County was the near completion of two producers on the same lease showing an initial production of between 1,900 and 2,000 bbls. The new sensations are the R. M. F. Oil Co.'s No. 2-B Wilson with a 450-bbl. flow and the No. 3-B, with the largest initial showing for several months past from this county in excess of 1,500 bbls. daily; both penetrated the pay around 1,580 feet. A total of 18 wells were completed during the week, 11 being oil producers, ranging from 20 to 560 bbls. daily and seven of the tests are reported as dry and will be abandoned. The largest producing completions was the R. M. F. Oil Co.'s No. 1-B Wilson, which is pumping 560 bbls. at 1,584 feet.

A slight extension was made to the producing area of the 1,380-foot sand by the semi-completion at the southwest corner of Lot 7, Block 27, by Maer and Staniforth of their No. 1-D Wilson with a daily production of between 150 and 175 bbls. per day. The new test is about 1,300 feet due east of the Boller well.

Allday Brothers' No. 1 test is coring into a sand encountered at 1,450 feet on the J. H. White land, in Lot 11, Block 41. The test is just across the road to the west of the Day and Taylor producer.

The Dorain and McCarty Oil Co.'s No. 3 Wilson, located in the south part of Block 321, Wilson land, Geraldine Townsite, has drilled into the sand a distance of 15 feet. The top of the pay, encountered at 1,588 feet, showed considerable oil, having at present 400 feet of fluid standing in the hole. Preparations are being made to standardize and drill in during the next few days.

New Wildcats

A test attracting attention is the wildcat of Larkin and White, the No. 1 Wilson, located in Block 76, which has reached an interesting stage, and is drilling slowly in broken sand at 1,530 feet. The pay is expected to be encountered by the last of this week.

Among new wildcats of interest is that of the Portland Syndicate, Block 68, Clark and Plumb subdivision, midway between Archer City and the Scotland community.

North of the Seymour road, and south of the Staley test on the Henderson land, Maer, Standiforth & Willis are rigging up for a wildcat test in the northeast corner of the south 40 acres of the west half of Block 8, Mayer survey, J. A. Kemp lands.

To the west of Archer, in Baylor County, Cranfill Brothers & Penn are rigging up for a cable test on the W. B. Wills lands, Section 2413, T. E. & L. lands. It is about a mile north of the Bob Waggoner No. 1 Portwood, which encountered an oil-bearing formation at 1,430 feet, but was abandoned as dry.

Wichita County Operations

The Shappell district, now the most active spot in Wichita County, continued to increase its activity during the past week. Several fair producing completions were reported, the largest being Shappell and other's No. 2 Jackson with an initial production of 210 bbls. at 1,805 feet. Two other wells of around 100 bbls. production each were also recorded in the completion list.

Failure of a promise of a three-quarter mile extension to the Shappel Pool at Murphy's corner by the showing made in the Carl Parker No. 2 Parker that distance to the south of the discovery well, was the discouraging feature of the pool. Since the completion of the discovery well at 1,797 feet the test is reported as having about 100 feet of oil in the hole and shows no indications of increasing its present production. Its present showing is not encouraging to the operators who thought the trend of production would be in the direction of the town of Holliday.

In different sections of the county during the past 15 days, more than a dozen wildcat tests thought to be geologically well located have proved at completion to be disappointments. A small per cent of these dry holes may be drilled deeper in the hope of picking up a producing sand. Of especial interest among this list of seemingly disappointments is the Gulf Production Co.'s No. 1 Miller, 8 miles southeast of Electra, and between the South Electra and Kemp-Munger-Allen districts. It has set casing on a sand at 1,797 feet after showing rainbows and it still has a chance of making a producer.

The largest semi-completion reported for the week was the Texhoma Oil & Refining Co.'s No. 13 Waggoner, in the South Electra Pool, which was placed on the pump and is good for between 50 and 60 bbls. per day from the sand at 1,936 feet.

A fairly promising new sand has been found 2 miles south of Fowlkes station at a depth of 1,999 feet; the test is the Stacy and Grebin No. 1 Burnett in Block 5 S. A. and M. G. R. R. survey. It was cored three feet in the sand with a good showing of oil. Casing is now being set to give the sand a test. A producer there will open up an entirely new sand in that locality at that depth.

The Texas Co.'s new 55,000-bbl. steel storage tank is nearly finished on its lease near the company's producers in Carson County. Two wells, which have been shut in for the past year on account of the lack of storage facilities, will be opened up as soon as the tank is completed.

Stringing of the pipe on the right-of-way has commenced by the Griswold Oil Corp. for its new four-inch oil carrying pipe line, to be laid from the refinery east of Electra to the company's wells in Archer County, a distance of approximately 24 miles.

Burkburnett-Hirschi

Completions reported in the Burkburnett and Hirschi Pool are the Kemp and others' No. 6 Eads, 4 bbls. at 1,990 feet; Magnolia Petroleum Co.'s No. 7 Holtzen, 10 bbls. at 1,825 feet.

Drilling — Bailey and others' No. 1 Buerbaum, drilling in brown shale at 485 feet; Gulf Production Co.'s No. 16 Dale, drilling just above completion depth at 1,845 feet; No. 2 Saunders, drilling in blue shale at 1,365 feet; McDabb Oil Co.'s No. 2-A Saunders, will shoot a sand at 1,880 feet; Magnolia Petroleum Co.'s No. 22 Holcomb, drilling at 1,205 feet; No. 20 Hortoin, fishing for logs at 925 feet; No. 21 Hortoin, drilling at 930 feet; John O'Neil's No. 5 Saunders, shut down for orders on top of an oil sand at 1,825 feet; No. 1 Sullivan, drilling at 625 feet; Perkins and others' No. 5 Saunders, drilling in blue shale at 1,490 feet; Pigg Oil Co.'s No. 20 Hirschi, drilling a broken sand at 1,865 feet; Pigg and others' No. 2 Foster, drilling in rock at 1,365 feet; Bonner and others' No. 4 Beach, drilling in mud at 1,040 feet; Texhoma Oil & Refining Co.'s No. 1-B Powell, drilling at 1,140 feet.

Wichita County

Completions—Memphis Petroleum Co.'s No. 3 Honaker, 6 bbls. at 1,050 feet; Moran and others' No. 1 Honaker, lost a crooked hole and abandoned at 600 feet; McClure and others' No. 4 Henson, 20 bbls. at 1,405 feet; same company's No. 5 Henson, dry at 1,425 feet; Magnolia Petroleum Co.'s No. 31-A Waggoner, 91 bbls. at 1,650 feet; Knight and others' No. 1 Dutton, dry at 1,925 feet; Panhandle Refining Co.'s No. 1 Jackson, 100 bbls. at 1,815 feet; Shappell and others' No. 2 Jackson, 210 bbls. at 1,805 feet; same company's No. 3 Jackson, dry at 1,360 feet; Texhoma Oil & Refining Co.'s No. 2 Hamilton, 120 bbls. at 1,910 feet; Carter and others' No. 4 K. & K., 70 bbls. at 1,805 feet; Staley and others' No. 1 K. & K., dry at 1,820 feet. South Vernon Oil Co.'s No. 1 Stephens, 70 bbls. at 1,970 feet.

Drilling — The Texas Co.'s No. 286 Waggoner, cleaning out to bottom at 1,953 feet; No. 287 Waggoner, drilling in shale at 625 feet; American Refining Co.'s No. 1 Jeff Waggoner, drilling at 105 feet; Baldwin and others' No. 1 Heron, drilling in shale at 955 feet; Baldwin Bros.' No. 13-C Kennedy, swabbing 150 bbls. daily from a sand at 900 feet; Gulf Production Co.'s No. 1J. Waggoner, drilling a dry sand at 1,575 feet; Kruger and others' No. 8 Waggoner, drilling in blue shale at 1,790 feet; Magnolia Petroleum Co.'s No. 7 Douglas, drilling at 425 feet; No. 8 Allen, drilling in shale at 1,570 feet; Mansfield and others' No. 3 Mrs. Jennings, drilling in mud at 700 feet; Rowe Drilling Co.'s No. 2 Waggoner, lost casing seat, has a water sand at 1,665 feet, will drill deeper; Cowling and others' No. 1 Seat, bailing and testing an oil sand at 1,198 feet; Culberson and others' No. 21 Jeff Waggoner, coring a sand showing rainbows at 1,595 feet; Eureka Production Co.'s No. 8 Waggoner, drilling a shale formation at 1,025 feet; Four States Oil Co.'s No. 7 Jennings, drilling in hard rock at 1,550 feet; Fisher and others' No. 4-B Fisher, drilling with a rotary

(Continued on Page 76)

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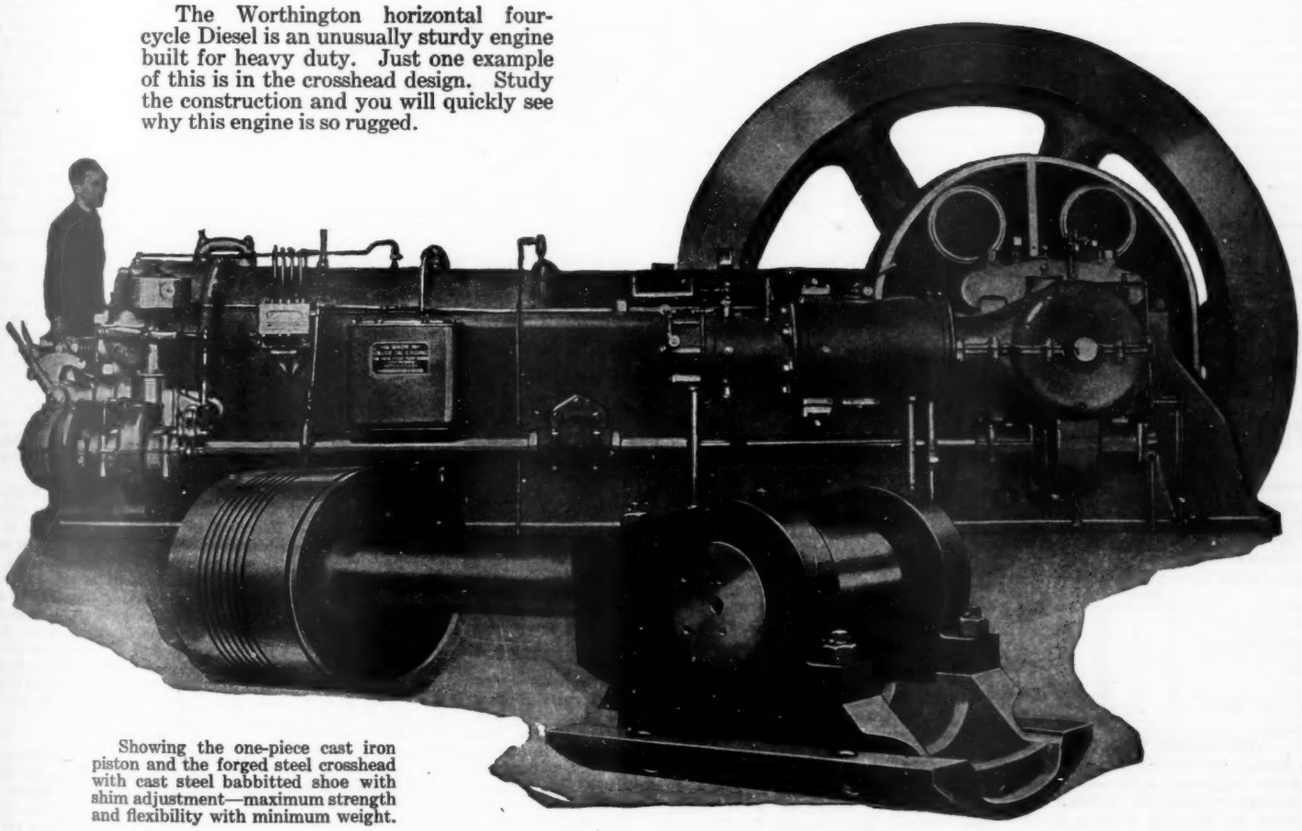

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West Kentucky—Tennessee

By Vern T. Whitney

Keyes & Thompson get 50-bbl. natural producer in new Kerley Pool, Allen County. Activity southwest of Glasgow, Barren County. Bolling & Lowman have 45-bbl. flush well in McLemore-Gillespie Pool. D. Boone Oil Co. finds 75-bbl. flush well in Cumberland. Preparations for spring activity.

BOWLING GREEN, Ky., Feb. 11.—For the first time in nearly three years, a spirit of genuine optimism prevails throughout the entire western Kentucky district. The rapidly advancing crude prices seem founded on a belief that there will actually be a need for a greatly increased production during the year, and the operators can see nothing in sight at this time in the way of big new production, which might tend to lower the price structure. The operators in this field would prefer to see a fair average price maintained than the extreme fluctuations which have prevailed during the past three years.

Weather and road conditions have prevented much new work being attempted, but there is a great deal being planned, and the indications are more work will be started during 1924 than in either 1922 or 1923. There are a great many inside properties to be developed, and a great deal of semi-wildcat territory to be tested. While there were a very large number of rigs in the field during the high pressure days of 1920 and 1921, many of these have been moved away, and it will not be surprising to see a shortage of drilling machines before the end of the summer.

Week's Work

A summary of the week's work shows an increase of 117 bbls. in production, 1 more completion, 5 more producers, 3 less dry holes and 1 less gasser compared with last week's figures. The wells were distributed by counties as follows:

County—	Comp.	Wells	Prod.	Prod.	Dry	Gas
Warren	3	3	80	0	0	
Allen	4	3	66	1	0	
Cumberland-Monroe	3	2	77	1	0	
Barren	2	2	25	0	0	
Hopkins	1	1	15	0	0	
Total	13	11	263	2	0	
Total last week	12	6	146	5	1	
Difference	1	5	117	3	1	

Allen County Wells

The feature well of the week in Allen County was completed in the new Kerley Pool, midway between the Mitchell and Keen pools, by Keyes & Thompson. It was No. 2 on the J. W. Wygal lease, 800 feet south of No. 2 Kerley, and is conservatively estimated at 50 bbls. naturally. The well was finished at 237 feet, 54 feet below the shale. Rig is moving to No. 3 location south of No. 2. On the C. B. Morris lease, offsetting the Kerley production to the north, No. 2 of Keyes & Thompson is showing for a good producer at 281 feet, two feet in the sand and 57 feet below the shale. Location for No. 3 was staked to offset No. 2 to the west. In this district, Keyes & Thompson are moving a machine to drill No. 1 on the south seven acres of the Kerley farm. Neil & Sons are nearing the top of the pay on the No. 4 C. H. Mayhew, 1,500 feet east of the Kerley, while Work & Co.'s No. 3 Guy, one-half mile west of the Kerley is spudding. The Kerley Pool was opened up by J. H. Neil & Sons of Scottsville, on November 22, 1923, on completion of No. 1 Kerley, which started off at around 80 bbls. naturally. Since that time this well and No. 2 have shipped approximately 3,000 bbls. of crude.

W. A. Wynn finished No. 19 T. R. Wilson, northwest of Scottsville, for a 10-bbl. pumper at around 356 feet. In the pool between Meador and Gainesville, Victor De Caigney got a 6-bbl. pumper in his No. 19 S. T. Allen at 350 feet, 48 feet below the shale. In the Keen Pool, H. K. Milner's No. 1 M. J. Shelton, south of the Gregory and east of the Fishburn production, was dry at 332 feet, 134 feet below the shale.

Barren County Busy

Oil interest in Barren County is approaching one of the high points since the opening of the field. Nineteen rigs are on locations and plans are being made to start several more. Most of the rigs are in the new district about 3 miles southwest of Glasgow, opened up some time ago by Lewis J. Emery, Jr. & Sons of Bradford, Pa., and Fred Moore of Bowling Green, Ohio. The Carter Oil Co. is moving a rig to the Lessenberry farm, 1,500 feet from the Travis production, for its initial test on that property. Ed Allen of Bradford, Pa., has purchased the W. M. Totty, E. Delong, R. Gassoway, E. Foster and the J. H. Brooks farms, and has let contracts for 5 wells, the first of which is now spudding on the Totty lease, about one-half mile west of the Travis lease owned by Fred Moore.

Oil is being found in this new pool at a depth unknown in Barren County up to the opening of this pool. Formerly, wells were drilled to 300 feet, just under the black shale, and if no production resulted they were abandoned as dry. This production is being found at a depth of around 500 feet, from 185 to 200 feet below the shale. The first discovery of this lower sand was found on the Pitcock farm, by the Emery interests. The oil in this district is of very high grade, testing from 45 to 48 gravity and commands a 15-cent premium over the Somerset light price.

To the southwest of Glasgow about 5 miles, Maxey and associates got a 20-bbl. pumper in their No. 6 W. Childress. In the same vicinity the Elem Oil & Gas Co.'s No. 8 Warder is reported good for 5 bbls.

Progress of Operations

Hiseville and Coral Hill districts—South St. Paul Oil Co.'s No. 6 L. Summers, was drilling at 263 feet; Summer Valley Oil Co.'s No. 4 Vincent down 285 feet; Bryner Oil Co.'s No. 1 Duff was progressing at 312 feet; C. E. Walker's No. 5 C. E. Smith was drilling at 247 feet; Jordon & Dale's No. 2 Chitwood is rigging.

Southwest District: Oliver Oil & Gas Co.'s No. 13 Smith was shut down; Fred Moore's No. 1 Bruton, 2½ miles north of the Scott farm, was drilling at 378 feet; Fred Moore and others' No. 1 Steffey, 1 mile southwest of the Travis, making hole at 180 feet; Houchins Leasehold Oil Co.'s No. 3 Ziegler, 400 feet south of No. 2, drilling at around 400 feet; Maxey & Shaw's No. 7 Childress, spudding; Maxel Oil Co.'s No. 4 Childress, is on top of the sand; Elem Oil & Gas Co.'s No. 6 Wynn, drilling at 400 feet; Carter Oil Co.'s No. 1 Lessenberry rigging; Ed Allen's No. 1 Toddy, spudding at 32 feet; Norris Brothers' Sampson & Warder, running three rigs; one on each the Russell, Richey & Berry leases. At Oil City, Shriver and associates have a rig on the Jordan tract. Ten miles southwest of Glasgow, on the Glasgow-Scottsville pike, L. J. Emery, Jr., & Sons are progressing at around 150 feet on No. 13 Harston.

The Consolidated Gas Co. of Glasgow is building a purifier at the Duff gas well north of town to eliminate sulphur fumes from the gas. The purifier will be 12 feet deep, 10 feet wide, and 35 feet long, and will hold 27 tons of chemicals necessary to purify the gas as it passes through the consumer.

Warren Development

Only three wells were completed during the week in the Warren County Field, the best being No. 3 Ben Price, of Bolling & Lowman, one location west of No. 1, in the new McLemore-Gillespie Pool south of Rockfield. This well is estimated at 45 bbls. flush, at a total depth of 1,239 feet. Shale was found from 1,085 to 1,166 feet. Two sands were encountered, first from 1,166 to 1,188 and the second from 1,222 to 1,235. The sands were shot with 30 and 50 quarts, respectively. In this district, Wiles, Walker and others' No. 2 G. Smith, 400 feet northeast of No. 1, filled up to the extent of 500 feet in the first pay below the shale. Drilling is being continued to the second pay before completion.

In the Sandidge-Francis Pool, northwest of Bowling Green, G. C. Foster and his associates of Dayton, Ohio, finished No. 5 C. E. Francis at a total depth of 595 feet. After shooting from 583 to 595 feet, the well filled up 150 feet the first two hours and owing to the heavy gas pressure it was impossible to install the tubing. It is estimated at 15 bbls. This well was 800 feet east of No. 4 and shows quite a nice extension. No. 6 location was made 400 feet east of No. 5. Across Barren River from the Francis, Makeever Brothers of Boston, Mass., got a 20-bbl. pumper in No. 12 Anna Shields at 607 feet. Sand was found from 581 to 597 feet and was given a 60-quart shot. The well was 450 feet south of 20 Sandidge, No. 13 being rigged up 450 feet south of No. 12.

Due to inclement weather very little progress was made in the Warren County Fields and the drilling wells remain at about the same depth as last week's report.

Hopkins County

The Copper Flash Oil Co. completed its No. 6 Holliman for a 15-bbl. pumper at 609 feet. The top of the sand was found at 587 feet. No. 7 is drilling. No. 8 location was staked off 400 feet east of No. 6 and 1,200 feet south of No. 3 on the Dink Williams farm. This company is also cleaning out No. 1 Williams, which was the discovery well of the Hopkins County Field.

Cumberland County

The best well of the week in Cumberland County is the No. 3 Widow Logan, of the Daniel Boone Oil Co., on the same structure as the No. 1 Logan and No. 2 Bud Kerr at Kettle Creek. It is good for 75 bbls. flush at 485 feet. It is thought the well will make a 25-bbl. pumper after settling. On the Barkesdale farm, in the same district, Lynch & Co.'s No. 1 was finished dry. It was one-half mile south of the duster on the Scott farm, drilled by the same parties. The Young Oil Co.'s No. 2 J. R. Poindexter is reported a 2-bbl. pumper in the first Sunnybrook sand. It was in the Kettle Creek district near the Clay County, Tennessee line.

Drilling Activities

Bear Creek: Wilcox Brothers resumed drilling No. 1 Sarah Sheckles, 1 mile east of Modoc, and are down 800 feet. These parties have made a location for No. 2 on the same farm to be started soon. E. M. Treat & Co. is rigging to drill No. 1 Dickens to offset their No. 1 Sam Riddle. Bob Wise and others are moving a rig to drill No. 1 on the Ferris place, east of the F. F. Smith production.

Sulphur Creek: Drilling was discontinued on the V. King well of Douglas St. Clair, owing to lack of fuel supply, at 765 feet. Two showings of gas have been encountered so far, the first at 600 feet, first Sunnybrook, and the second at 725 feet. The Morris Petroleum Co.'s No. 3 A. Huddleston is shut down at 400 feet with a fishing job. This company finished its No. 1 Huddleston March 17, 1923, and it has produced to date over 6,000 bbls. of crude and is making, according to reports, 45 bbls. daily at this time. No. 2 was a duster. W. S. Raydure's No. 2 Mrs. Coop is being drilled to the Huddleston sand. It is reported that Raydure is drilling his No. 1 Riddle deeper; the Kanawha Oil Co.'s No. 2 G. Williams was drilling at 500 feet. The Paragon Development Co. is laying lines to connect with this company's production on the Groce and Williams farms; the Combest Oil Corp. is spudding No. 6 A. Huddleston at 56 feet.

At Kettle Creek, the Gartlan Estate's No. 4 Bud Kerr is shut down at 285 feet with a fishing job; Banta and others' No. 1 Logan was drilling at 450 feet; Dayton Oil Syndicate's No. 3 Kim Crawford, shut down at 200 feet; W. S. Raydure has moved his machine from the Porter Huddleston farm, at Dooley's Hill, to the Wash Huddleston farm 1 mile north, near Poplar Grove school house; Turner & English's No. 1 Anderson, 1 mile north of the Kerr farm, is progressing at 158 feet.

The Combest Oil Corp.'s wildcat on the G. Anderson farm, on Galloway Creek, was drilling at 260 feet. At 200 feet a rainbow was found. This test is being watched very closely as it will mean the opening of a new district and serve as a connecting link between Judio and Neeley's Creek Pools, if a producer. In the vicinity of Burkesville, Wilcox Brothers are shut down at 600 feet with a broken engine in their No. 1 Simpson. The Shady Side Oil Co.'s No. 10 Strange, on the Big Renox Creek is still shut down at around 700 feet.

Monroe County

On account of weather conditions very little work is being done in the Monroe County area. Turner & English have moved a rig to the Smith farm, one-half mile south of the Railey lease and will start their initial well on that lease at once. On the Edmonton property, adjoining the Smith, H. A. Kiser of Scottsville is rigging up to drill his No. 1 test.

Thurman H. Myers has just completed a geological investigation on 10,000 acres in 10 different blocks in Barren, Metcalf, and Monroe Counties, Kentucky, and Clay County, Tennessee, for Col. J. C. Sibley, Jr., of Franklin, Pa. It is reported Colonel Sibley purchased this acreage for development purposes and that Mr. Myers has reported favorably on all of the blocks. Should this property be tested it is believed it will open up some new pools of importance. Colonel Sibley spent several months last year making a personal investigation of the future possibilities of the four counties in which this acreage is located.

Colonel Pettit of eastern Kentucky has taken over a large number of leases in the Kettle Creek district and has shown his faith in these holdings and the future of this section by moving his family to Tompkinsville, the county seat of Monroe. Colonel Pettit was very active in

(Continued on Page 88)

Butler Bolted Tanks

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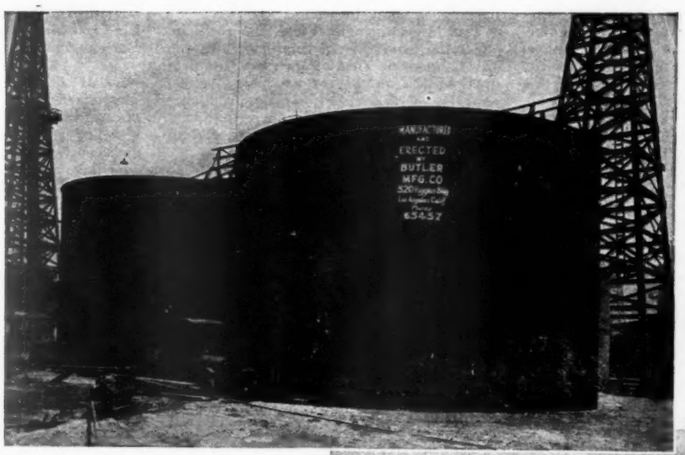
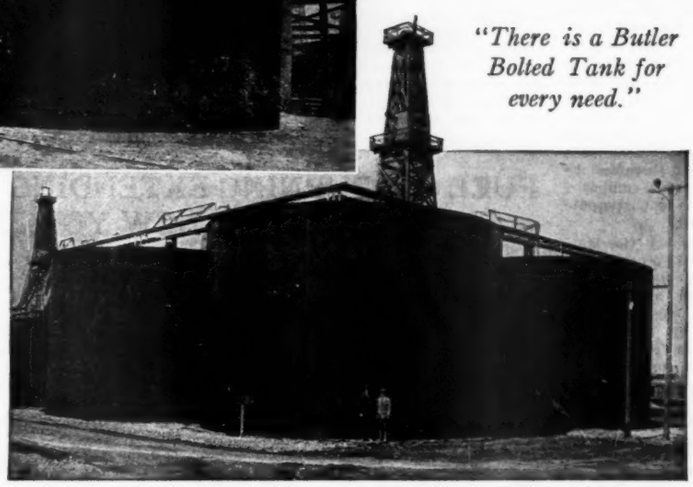


The two tanks shown at the left are of 3,000 and 5,000-barrel capacity.

They were erected for the Jameson Petroleum Co. at Santa Fe Springs, Cal.

"There is a Butler Bolted Tank for every need."



At the right are shown three Butler Bolted Tanks of 5,000-barrel capacity each.

These tanks were erected for the Globe Petroleum Co., at Huntington Beach, Cal.

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Wall Street Guessing About Morgan

Speculation Concerning Possible Mergers and Reorganization On a Great Scale. Oil Situation Attracting Keen Attention

By N. O. Fanning

NEW YORK, Feb. 11.—The purchase of 300,000 shares of stock of the Marland Oil Co. by the "Morgan interests," and the purchase of an option by the same interests on additional stock, has aroused considerable comment in local financial circles. There were numerous conjectures as to the significance of the deal. One was that the stock was purchased for account of the Standard Oil Co. of New Jersey. This was denied by Standard. Another is that the Morgan interests intend to broaden their interest in petroleum as the result of the growth and importance of the industry. The latter theory would involve the belief that the Marland transaction was only one of a series, the remainder of which are to follow shortly.

It is a well known fact that the Morgan banking interests were very prominent in the building up of the steel business to its present size. Oil is now about the only industry which promises to outdo steel in growth. It would, therefore, be logical for financial interests affiliated with J. P. Morgan to want to participate in oil, as they have in steel.

In entering the oil business, the Morgan interests face a very different proposition than they did in steel. While Morgan was putting forth his best endeavors to build up the steel industry, another group, headed by the Rockefellers, were occupied in putting the petroleum industry on its present basis. Now Morgan finds an industry already quite fully developed, although one capable of still further growth.

The dissolution of the Standard Oil Co. in 1911, however, seems to have opened the petroleum business to increased competition. Despite the fact that the Standard Oil companies, in their new form, have increased their business enormously and now have a dominant position in all branches of the oil business, there have grown up many companies of great size which are entirely outside the Standard Oil group. To put the situation more plainly, the oil business has outgrown the Standard Oil companies, and there is now plainly room for another big combine. It was pointed out recently, in The Oil and Gas Journal, that there is now no one organization capable of dominating the oil business, and that based on the size of the industry, much larger units than now exist could, under favorable conditions, operate profitably.

Capital and Nerve Required

Wall Street has kept out of the oil business to a large extent until recently. During the last three or four years increased interest has been taken in it by the more conservative bankers and financial interests. It is now appreciated that the oil business is one of the most important in the world and that it requires the strongest backing to enable it to carry on the work which lies before it on a profitable and stable basis.

The petroleum business plainly requires additional capital, and it may be that the Morgan group of banks are ready to supply it. If that is so, the next four years ought to witness remarkable growth and increased stability in oil, and greater prosperity.

It is generally realized that the greatest opportunity rests in the Mid-Continent Field. Here lies the greatest oil producing area in the world, which, although producing oil on a more stable basis than any other, has been the scene of the greatest depression. The Mid-Continent oil area is in reality the backbone of the world's oil supply. Flush fields may come and go, but it has been the fact ever since these fields became large producers that the oil refiners have had to turn back to them in emergencies.

During the last few months two of the independent companies operating principally in the Mid-Continent Field have undergone reorganization; these are the Prairie Oil & Gas Co., which entered the refining and marketing business for the first time, and the Producers & Refiners' Corp., control of which was acquired by the Prairie. In addition to this, Marland Oil has figured in a deal which, as already outlined, may have a great deal of significance.

Although these transactions may have been isolated events, they are significant of the trend of things in the oil business.

Due to the speculative character of the business of producing crude oil (particularly wildcatting), it takes more than vision and capital to operate in oil. It takes a great deal of nerve. The largest units in the oil business today are spending millions in wildcatting. Many have put millions into this branch of the business in the past with practically nothing to show for it.

The Mid-Continent Field, as a whole, offers the least risk in this branch of the oil business, because of its record of production, the number of producing sands, and the lasting quality of its producing wells. It is natural, therefore, that new capital should seek this area rather than others.

Dutch-Shell Sets Example

The activities of the Royal Dutch-Shell group in the United States shows clearly what room there is for expansion. They go to prove that there is a large place for new capital in the oil business. Beginning with a small organization, the Dutch-Shell combine has built up a large organization with the Shell Union Oil Corp., operating in nearly every field in the United States, with a production of 70,000 barrels of oil daily in California, an interest amounting to 12,000 barrels daily in production of another California company, and output of at least 25,000 barrels daily in the Mid-Continent. It has a refining organization of equal size.

There is really no more national an oil organization in existence in the United States today than the Shell Union, which, as is generally known, is foreign controlled.

On Eve of New Era

What all this means, in the broad sense, is that the oil business is going to grow, to increase the importance and experience greater prosperity than it has yet seen. There are a great many people who have not forgotten the depression of 1923, and believe that the oil business cannot prosper. The business is already drawing away from pessimists, and appears to be entering a new era. It will rise above the wave of depression, and also above politics and political agitation.

Meanwhile, the financial district is watching carefully to see what further steps are taken, if any, by the Morgan interests in the field of oil.

FUEL OIL BURNING EXTENDING RAPIDLY, NEW YORK REPORTS

NEW YORK, Feb. 11.—Large distributers of fuel oil burning apparatus contend that conversion of coal burning heat units into oil burning ones is much greater than reversion to coal from oil by units which have been equipped to burn oil in the past few years. One oil heating and power company reports it entered into more contracts for installing fuel oil burning equipment than in any previous month in its history and now has completed, or under contract, 1,000 fuel oil burning units in the United States, consuming between 2,500,000 and 3,000,000 barrels of fuel oil annually.

In New York City this company says it has contracts for the supply of 1,000,000 barrels of fuel oil annually. A year ago it was distributing at the rate of only 500,000 barrels a year locally. January's contracts included one with a new hotel at Madison Avenue and Fifty-eighth Street; another with a group of eight apartment houses.

Use for Fuel Grows

New York's largest buildings are burning oil. Chief converts to oil burning apparatus are owners of hotels, office buildings and large stores. Domestic consumers are less ready to take it up than in New England. One of the first large plants to adopt fuel oil burning in New York was the Ritz-Carlton Hotel. Its plant has been in operation two years. The first six months, its management states, the system saved $25,490: saving in cost of fuel, $17,000; saving in cost of labor, $5,424; saving in cost of ash removal, $2,388, and saving in repairs and renewals, $678. Since, the San Remo, Imperial, Claridge, Alamac, Waldorf-Astoria, Vanderbilt, Park Avenue, Carlton Terrace, Belmont, Ansonia, St. Regis and Majestic Hotels have installed similar systems.

Department stores using oil burning apparatus include: Macy's, Wanamaker's, Hearn's, McCreery's, Bonwit-Teller & Co., and Saks' new Fifth Avenue Store. Columbia University abandoned coal two years ago, as did the Times Annex. The new Pershing Square Building will burn oil only.

The most important invasion of oil in the downtown district is in the Equitable Building, four of whose seven boilers are consuming guel oil, supplied under a five-year contract, at 4½ cents a gallon. About 10,000 gallons are used a day now and 6,000 in the summer light load. The building accommodates four 20,000-gallon storage tanks. Formerly, 60 tons of coal were burned a day.

Metropolitan Life, Singer, 43 Exchange Place, Knickerbocker Building, 302 Broadway, Front and Wall Streets, and the Federal Reserve Bank Buildings burn fuel oil, as does Keith's Palace Theater System. The Goebel and Trommer breweries in Brooklyn burn oil, as do Fleischman & Co., Passiac Worsted Spinning Mills, Runkel's Chocolate Co., Excelsior Savings Bank and the Traitel Marble Co., in Long Island City.

Spread Through Country

Apartment houses, always liberal patrons of the coal industry, are adopting oil apparatus widely. The new Hudson Towers at 72nd Street and West End Avenue and a dozen others on both east and west sides under construction will burn fuel oil.

Up to December, 1919, fuel oil burning was unknown to New York. Pacific Coast, Middle West and New England cities knew it, but not a single New York building was equipped for it. Its coming was accelerated by high coal and irregular coal supply.

In San Francisco, 95 per cent of the office buildings burn fuel oil. To a less extent, other California cities use it. On the Eastern Seaboard, Jacksonville and Savannah introduced its use. Then New England took it up. Harvard University has an oil burning unit which heats 35 separate buildings, including three hospitals. The Boston City Hall and State House consume oil; also, the Massachusetts General Hospital, Boston Transcript, Page & Shaw, Union National Bank, United Drug Co., and Saxony Worsted Mills. Coal is generally found a cheaper fuel away from the Seaboard and main waterways.

Oil burning is being taken up in New York by householders more, stimulated by entry of the Standard Oil Co. in the equipment of light fuel oil business. The New York Central has taken up the burning of oil on its ferries.

H. R. HUGHES ESTATE BEQUEATHED TO SON

HOUSTON, Tex., Feb. 9.—Practically the whole of the $1,000,000 estate of the late Howard R. Hughes, Sr., president of the Hughes Tool Co., will go to the only son, Howard R. Hughes, Jr., according to a will filed for probate. Mr. Hughes died January 14.

The will asks that the son be given "as good an education as possible to fit him for such business or profession as he may desire to enter," and further asks that such education, in part at least, be given in the State in which young Hughes is to make his home. The boy, now 18 years old, is a student at the Rice Institute.

The estimate of the estate was made by R. C. Kuldell, business associate of Mr. Hughes. At the request of the son, Mr. Kuldell will serve as administrator. The will was made in 1913, and named Mrs. Allene Gano Hughes, wife of the manufacturer, as executrix without bond. Mrs. Hughes was to have had one-half of the estate, the son one-fourth and the father, mother and brother of the deceased were each to receive a twelfth. Mrs. Hughes, who formerly lived in Dallas, died a year before the death of her husband.

NEW PETROLEUM COMPANIES

The capital investment in new petroleum companies in the month of January totaled $127,728,000 for the 46 new enterprises formed during the month. This compares with 35 corporations chartered in December, with an aggregate capitalization of $170,286,000 and 54 in November with a total capitalization of $43,085,000. Outstanding among the new concerns formed last month is the Mideast Oil Co., incorporated in Delaware with a capitalization of $100,000,000. The investment in oil corporations 1918 to 1923 follows: 1918, $2,134,547,000; 1919, $3,786,006,000; 1920, $3,786,814,000; 1921, $1,255,657,600; 1922, $1,157,972,000; 1923, $962,403,840.

MONTANA SKIMMING PLANT

The Reliance Refining Co. of Kalispell, Mont., is erecting a skimming plant at that point. The plant, according to information from William G. Sinnarn, will have a capacity of 200 bbls. daily.

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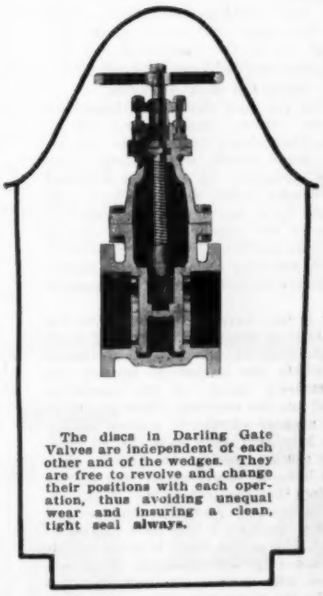

The discs in Darling Gate Valves are independent of each other and of the wedges. They are free to revolve and change their positions with each operation, thus avoiding unequal wear and insuring a clean, tight seal always.

952

Story of Owensboro, Kentucky, Field

Greater Activity Expected By Oil Men in Hancock, Ohio, Daviess and McLain Counties During the Present Year

By Vern T. Whitney

OWENSBORO, Ky., Feb. 11.—As far back as many older residents of Owensboro can remember there was talk of oil in the northwest section of Kentucky. Surveys made and published by geologists in the employ of the State and large producing companies, have made reference to the oil possibilities in half a dozen counties in the northwestern Kentucky coal basin. During recent years many wells have been drilled within a radius of 20 miles east, south and west of Owensboro, and, according to a record in the State geological report, six were completed in Daviess County prior to 1920 at shallow depths ranging from 117 to 295 feet, while in more removed localities deeper tests were made. Upon investigation it is found that in practically all the wells drilled within this area during the last decade in search of oil, there were strong evidences of crude petroleum. In many the showing was light, but the evidences were without a question, and as a result there have sprung the prospects of a field which may not furnish anything sensational, but will produce wells from which oil can be pumped for a good many years to come.

These are the conditions that are attracting the oil men from many States to Owensboro; men experienced in business, men who have followed the game for many years and who see the possibilities in the future development here. They point to the existing sands as capable of producing oil for years. This is the history of the oil counties in which crude oil is produced from oil bearing sands, and it is said the same conditions will prevail in this territory where three distinct sands are encountered, although up to the present time only two have produced oil in commercial quantities. The two producing sands are the Jett and Barlow, found at an average of 500 and 700 feet, respectively. Both sands derive their names from the farms on which they were discovered and the local names applied as a matter of distinction. The Jackson sand, which lies about midway between the Jett and Barlow, in the wells so far drilled has been barren of oil and dry, or otherwise showing salt water. The belief prevails that at some point this sand will prove productive, although up to the present it has furnished only a slight amount of oil.

Many Oil Men Attracted

During the past two years there have been, at various times, scores of oil men in Owensboro, attracted by the reports. Some stayed, while others, lured by the prospects of more sensational wells, sought other fields. Those who remained have no regrets, for they are looking to the production they already have to be increased with each succeeding well, and they seem willing to chance their time and money in future speculation.

Few people have been brought to the realization of the large amount of work already done, of the outlay of money from which the immediate returns are comparatively small, or the hardships endured and the untiring efforts put forth by the average oil man to achieve results. It has been truthfully said the oil business is the greatest gamble known. The hazard is by no means small; the gamble is against the greatest odds. If the experienced man takes the chance and loses, he accepts his loss as a matter of course; if he wins, there is little change to be noted in his demeanor. There are oil men who have made and lost fortunes in the twinkling of an eye. That is why the oil man stands in a different light from men engaged in other industries; he is imbued with the energy, courage and skill that has made the oil industry the second largest in the nation.

$350,000 Expended

To produce oil requires an immense outlay. In the past year and a half it is estimated the number of wells drilled in the Owensboro Field, including dry holes and those equipped for producing, have entailed an expenditure of $350,000, while upward of $100,000 is tied up in lease equipment and drilling rigs. At present, according to the reports received through the Indian Pipe Line Corp., which serves the field, there is now being run out of the Pellville Pool approximately 5,000 bbls. of crude oil a month. Last summer, upon the first indication of a pool opening, this company, grasping the situation, immediately began laying a pipe line from Haynes Station on the Illinois Central Railway to the most extreme well in the defined area. This line extended about 6 miles, and within 30 days after the first pipe was unloaded the company was receiving oil from the producing wells. Seeing again the possibilities in the extension 2½ miles southeast of the Pellville Pool, this company is now engaged in laying a line to relieve the congested tankage in this section. In all of the lines so far completed, not a pump is used, the oil being delivered to the loading rack at Haynes Station by gravity. However, it will become necessary to install pumps to "boost" the oil to the loading station when its lines are pushed eastward.

Showing Found in Hancock

As previously stated, the drilling for oil in the coal basin of northwestern Kentucky has extended over a number of years, the indications so strong and the operators so forcibly impressed that it has continued intermittently for almost 20 years. The opinion prevailed that at some place or other oil would be found in paying quantities, but it was not until the latter part of 1910 that anything like a tempting showing was found in Hancock County. Snowden Brothers, extensive operators in the Bridgeport, Ill., and Texas fields, tempted by the favorable geological reports, moved a rig into the outskirts of Hawesville and drilled a well. The result was an initial of two or three barrels. Being accustomed to large wells they could not see the wisdom of another hazard and moved away, giving the well to the farmer on whose land it was drilled. It has been pumped at intervals for the last 10 years and is still making oil. Later on Snowden Brothers drilled a deep test at Chambers, between Hawesville and Pellville, which proved to be non-productive and their venture in this section of Kentucky is abandoned.

The showing of oil at Hawesville caused a number of oil men to take cognizance of the possibilities, and in the years that followed several wells were drilled in Daviess and Hancock Counties. Ohio parties drilled two wells at Maceo, one to a depth of 3,200 feet, and another at 2,800 feet. Marked evidences of oil, it is understood, were found in both wells. Natives of the Maceo section, who can recall the drilling of the deeper well, point to the fact that considerable secrecy surrounded the operations. It is said immediately after the showing of oil was secured the well was plugged and the rig moved off. It is stated a considerable amount of oil was baled from the well, which is on the Dean farm, but it went into the records as a dry hole. The same parties at a later date drilled a well at Utica with the same results, and later put down tests at Indian Lake in Hancock County and near Livermore, in McLean County.

Effort to Locate Pool

It was not until about three and a half years ago that interest again centered in Hancock County and a very determined effort was made to locate the pool which it was contended by many really existed. Contracting for a number of St. Louis people, Bert Thompson, the pioneer of the present field, came down to Hancock County from Oakland City, Ind. He brought with him a complete standard outfit and set it up on the Tom Jackson farm for a deep test. In his first well he encountered a sand at about 700 feet which gave all the indications of producing oil in commercial quantities. Importing materials from Bridgeport, Ill., the well was shot and put on a temporary pump. The result was very pleasing and the contractor was ordered to drill another well and carry it to the Mississippi lime, which it was calculated would be encountered at about 1,500 feet. Everything went well for Mr. Thompson until he passed the oil bearing sand at about the same depth as in the previous well, when he became involved in trouble with a caving hole and ultimately lost the tools. This brought about an ugly fishing job which lasted for almost a year, when the tools were finally recovered and brought to the surface. The well was completed to the specified depth without a showing below the oil producing formation, and was plugged back and shot, resulting in a small producer.

Surrounded in Mystery

Reports gaining circulation with regard to the oil produced in the Jackson wells brought in a few oil men. In the summer of 1921 an English corporation drilled a well east of Victoria, just over the Breckenridge line. Like many other wildcat wells, it was surrounded in mystery, and little could be learned of the result. It was likewise classed as a dry hole. About the same time C. Taber Johnson, of this city, and Dan Morgan, now of Columbus, Kans., started a test on the Cole Jett farm, 2½ miles southeast of Pellville, which proved to be the discovery well of the Pellville Pool. After laboring through the summer under the most adverse conditions, the well was finally drilled to a depth of 480 feet, finishing at this point with 20 feet of producing formation which is now characterized as the "Jett sand." This well was completed in September and shot the same month. An attempt was made to set the casing but after a mishap a joint of pipe was dropped in the hole and it was abandoned.

The showing in the Jett well furnished the long looked for stimulus to the industry in this section. It brought in a number of oil men, among them Fred Hartman, Lawrenceville, Ill., and A. G. Bodine, of Philadelphia. They soon had together a crowd of English capitalists, from which sprang the Kentucky Oil Co. This company took over the holdings of the Oak Oil Co., organized by C. T. Johnson, Dan Morgan and Bert Thompson. About this time H. F. Gibson, who had been operating in the Warren County Field, acquired the small tract of 55 acres of the Amanda Stewart farm, and drilled a well which showed better than any previous ventures. Then the Kentucky Oil Co. on the southern tract of the same farm, put down a quartet of producers, which however small, showed the strongest indications

(Continued on Page 84)

MEXICAN SHIPMENTS IN DECEMBER SHOW RECORD FOR PANUCO HEAVY

TAMPICO, Mex., Feb. 8.—The volume of petroleum dispatched from Mexican ports of primary clearance during the month of December totaled 12,689,471 bbls, an increase over the movement in December, 1922, of 475,363 bbls. Of this volume, the heavier oils of the Panuco district were represented by 8,206,011 bbls., which is a record for oils of this class in any one month.

Transcontinental Petroleum Co. (S. O. of N. J.), took first place in the list of exporters during December, its movement out of Tampico alone being 2,500,000 bbls., plus; and it also figured again in the Port Lobos shipments. Huasteca Petroleum Co. (Mexican Petroleum) came second, while Mexican Sinclair Petroleum Corp. had a record movement with 1,750,000 bbls to its credit.

By classes the movement was composed of the following: Crudes, 7,957,943; topped crues, 3,517,845; distillates, 535,127, while an item of bunkers, added to balance, totaled 678,556 bbls.

In detail the movement follows:

FROM TAMPICO

By Huasteca Petroleum Co.
(Mexican Petroleum)

Dec.	Rig	Vessel and Destination—	Bbls.
1	Ss.	H. G. Wylie, Fall River...	*38,319
2	Ss.	P. H. Harwood, Galveston	*68,306
3	Ss.	E. L. Doheny, Boston.....	*59,313
3	Ss.	J. O. Boyd, New Orleans.	**18,590
3	Ss.	W. L. Steed, Brazil.....	*56,271
4	Ss.	Mexoil, Miami	*14,462
6	Ss.	F. K. Lane, Providence...	*64,348
7	Ss.	C. A. Canfield, New Orls..	*58,189
7	Ss.	Fanoil, Miami	*13,555
8	Ss.	Montana, New York	*61,267
8	Ss.	P. H. Harwood, Galveston.	*67,745
9	Ss.	F. R. Kellogg, New York..	*60,492
10	Ss.	Invergordon, Southampton	*56,149
10	Ss.	Fuel Oil, Houston	*14,442
10	Ss.	C. Anderson, New Orls....	**75,570
11	Ss.	O. D. Bennet, New Orls...	*46,475
11	Ss.	Olna, Hamburg	*54,959
12	Ss.	Cerro Ebano, Providence..	*72,304
12	Ss.	Mendocino, Montevideo...	*56,942
13	Ss.	Chas. E. Harwood, N. Orls.	**34,445
14	Ss.	I. C. White, Galveston ...	*70,565
15	Ss.	Mirlo, New York	**79,245
15	Ss.	W. H. Doheny, Boston....	*61,510
16	Ss.	Meline, New York	*54,297
16	Ss.	P. H. Harwood, Galveston	*73,445
16	Ss.	Inveravon, Southampton .	*57,342
17	Ss.	Mexoil, Miami	*11,005
17	Ss.	Mexoil, Miami	**4,018
17	Ss.	Satanta, Providence	**51,826
18	Ss.	Caloric, Southampton ...	*58,986
19	Ss.	J. O. Boyd, New Orls. ...	**19,507
20	Ss.	Massasoit, New York.....	*47,600
20	Ss.	Fred Ewing, Portland	*62,594
20	Ss.	N. Bridge, Tampa.	*40,791
20	Ss.	C. K. Canfield, Portland..	*59,922
20	Ss.	Fuel Oil, Miami	**4,577
21	Ss.	H. G. Wylie, Jacksonville.	*40,576
21	Ss.	I. C. White, Galveston....	*71,052
21	Ss.	San Teodoro, Buenos Aires	**31,205
25	Ss.	Inverurie, Liverpool	*56,521
25	Ss.	Chas. E. Harwood, N Orls.	**35,281
25	Ss.	P. H. Harwood, New Orls.	*65,587
28	Ss.	I. C. White, Panama.....	*66,126
28	Ss.	Tilford, New York	**37,447
28	Ss.	W. Barnes, Brazil	*60,557
29	Ss.	N. Bridge, Galveston	*41,384
30	Ss.	Fanoil, Tampa	**14,147
		Bunkers deliveries	181,982
		Total	2,461,238

By Mexican Sinclair Petroleum Corp.

Dec.	Rig	Vessel and Destination—	Bbls.
1	Ss.	E. V. R. Thayer, Phila....	63,946
1	Ss.	Gene Crawley, Pt. Barrios, S. A.	31,516
2	Ss.	Madrono, Cuba	54,875
3	Ss.	J. M. Cudahy, Texas City.	49,277
3	Ss.	Freeport Sulphur 1, Freeport	19,032
4	Ss.	Mirita, New Orleans	57,755
4	Ss.	Freeport Sulphur 6, Freeport	26,908
6	Ss.	J. Fletcher Farrel, Tiverton	66,917
5	Ss.	W. L. Connelly, Houston..	30,723

(Continued on Page 82)

2600 Feet of 11 inch Hole in 19 Days

THIS feat was accomplished with a Frick-Reed Dreadnaught Rotary equipped with the famous Link-Belt Standard Sprocket Chain SS-40 and SS-124 at Graham Poll, Oklahoma.

Not one cent was spent for repairs nor was any time lost for any reason.

Think of the volume of power and the rapid transmission of power required to make that much large-diameter hole in so short a time! Consider the terrible shock and strain undergone by SS-40 and SS-124 Link-Belt chain on this job.

This is just another of the many instances brought to our attention.

Put a strand of Link-Belt chain on your rig. It is a "glutton for punishment."

Look for the double arrow on every link.

1539

LINK-BELT COMPANY

World's largest manufacturers of Elevating, Conveying and Power Transmission Chains

INDIANAPOLIS

SS 40 **LINK-BELT SPROCKET CHAIN** SS 124

Walsh Details Provisions Teapot Lease

Says Government Is Entitled to From 16 to 17 Per Cent of Oil Actually Extracted. Mexican Government Requires Less

WASHINGTON, D. C., Feb. 11.—Just what the Teapot Dome lease is has been summarized by Senator Walsh of the Senate investigating committee as follows:

"Practically it is a lease of whatever interest there is in the ground. It provides for the payment of royalties by the lessee to the Government of the United States running from 12½ per cent to 50 per cent, depending upon the production of the wells. Wells producing less than 50 barrels a day pay 12½ per cent; wells producing more than 1,000 barrels pay 50 per cent royalty. The average royalty thus far secured from the operations conducted upon naval reserve No. 3 is between 16 and 17 per cent, that is to say, under this lease the Government of the United States becomes entitled to 16 or 17 per cent of the oil actually extracted from the reserve.

By the terms of the lease it is all sold to Sinclair, and Sinclair pays for it to the Government of the United States in oil certificates. These oil certificates recite the amount of oil which is sold by the Government of the United States to Mr. Sinclair, and the price at which the oil is sold, governed by the prevailing price in the Salt Creek Field, or in the Mid-Continent Field, or at least by the price paid by the Prairie Oil Co., or the Sinclair Consolidated Oil Co. in the Mid-Continent Field.

Use of Oil Certificates

"These oil certificates thus received upon the sale of royalty oil to Sinclair may be redeemed by him or utilized by the Government in three different ways: In the first place, those certificates may be used to buy fuel oil from Sinclair—a barrel of crude oil for a barrel of fuel oil. Settlements are made monthly. If at the end of the month there are 100,000 barrels of oil coming to the Government of the United States, it sells that 100,000 barrels of oil to Sinclair and he gives a certificate showing that he is indebted to the United States for 100,000 barrels of oil, worth $1 a barrel, $100,000. With that certificate for 100,000 barrels of crude oil, the Government may buy from Sinclair 100,000 barrels of fuel oil, which he delivers to the Government at the seaboard.

"These certificates may also be used for the purpose of purchasing from Sinclair gasoline, lubricating oil, kerosene and other oil products at the amount specified in the certificate. If the Government has a certificate representing $10,000 it may buy from Sinclair $10,000 worth of gasoline, of course, at the prevailing price.

"The certificates may also be used in a third way: Under the contract Sinclair agrees to construct for the Government of the United States steel storage tanks at the seaboard, and he is to be paid for that work of construction with these oil certificates. If a tank costs $100,000 he is to be paid in these certificates to the amount of $100,000."

The Elk Hill contract, entered into with the Doheny interests, is in many important particulars not unlike the one entered into with the Sinclair interests. This contract calls for the storage of fuel oil and other petroleum products at such places as the Government may designate. Doheny agrees to exchange the storage products for crude oil in the field. The Pearl Harbor naval storage proposition in Hawaii is involved in this lease.

Provisions of Leases

In view of the widespread interest in the leases granted the Pan-American Petroleum & Transport Co. and the Mammoth Oil Co., on naval reserve oil areas in California and Wyoming, a review of the provisions in these leases regarding royalty interest of the Government in oil produced in these areas, follows:

Development work, such as drilling wells, laying out roads, putting in sewers, housing facilities and storage tanks on the leases are part of the expense of the companies operating the leases. So also is the actual operation of the properties.

Under the lease granted to Pan-American Petroleum & Transport Co. on Naval Reserve No. 1 in California, the following royalties were fixed, based on average production per well for the calendar month:

On that portion of the average production per well not exceeding 20 barrels a day, 12½ per cent.

On that portion of the average production per well of more than 50 barrels and not more than 50 barrels a day, 14 2/7 per cent.

On that portion of the average production per well of more than 50 barrels and not more than 100 barrels a day, 16⅔ per cent.

On that portion of the average production per well of more than 100 barrels and not more than 200 barrels a day, 20 per cent.

On that portion of the average production per well of more than 200 barrels and not more than 300 barrels a day, 25 per cent.

On that portion of the average production per well of more than 300 barrels and not more than 400 barrels a day, 30 per cent, and

On that portion of the average production per well of more than 400 barrels a day, 35 per cent.

Under the lease granted Mammoth Oil Co., in Teapot Dome, the following royalties were fixed, based also on average production a well for the calendar month:

For oil of 34 degrees Baume or over:

On that portion of the average production per well not exceeding 50 barrels a day, 12½ per cent.

On that portion of the average production per well of more than 50 barrels and not more than 100 barrels a day, 16⅔ per cent.

On that portion of the average production per well of more than 100 barrels and not more than 200 barrels a day, 20 per cent.

On that portion of the average production per well of more than 200 barrels and not more than 300 barrels a day, 25 per cent.

On that portion of the average production per well of more than 300 barrels and not more than 400 barrels a day, 30 per cent.

On that portion of the average production per well of more than 400 barrels and not more than 500 barrels a day, 35 per cent.

On that portion of the average production per well of more than 500 barrels and not more than 600 barrels a day, 40 per cent.

On that portion of the average production per well of more than 600 barrels and not more than 800 barrels a day, 42½ per cent.

On that portion of the average production per well of more than 800 barrels and not more than 1,000 barrels a day, 45 per cent, and

On that portion of the average production per well of more than 1,000 barrels a day, 50 per cent.

On crude oil of less than 34 degrees Baume produced in Teapot Dome, the following Government royalties were fixed:

On that portion of the average production per well not exceeding 20 barrels a day, 12½ per cent.

On that portion of the average production per well of more than 20 barrels and not more than 50 barrels, 14 2/7 per cent.

On that portion of the average production per well of more than 50 barrels and not more than 100 barrels a day, 16⅔ per cent.

On that portion of the average production per well of more than 100 barrels and not more than 200 barrels a day, 20 per cent, and

On that portion of the average production per well of more than 200 barrels a day, 25 per cent.

8 Million Barrels Government Oil In Teapot Storage

NEW YORK, Feb. 9.—The Sinclair Crude Oil Purchasing Co. has 17 tanks of 80,000 bbls. capacity each in the Teapot field. The company is erecting 42 tanks of similar size at the Clayton tank farm, which will bring the capacity of the farm to 12,000,000 bbls.; in connection with the Teapot tankage, Sinclair will have a total storage capacity of 13,360,000 bbls. of crude. At the present time the Sinclair interests have in storage approximately 8,000,000 bbls. of Government royalty oil, purchased under the contract made with the Government after the Teapot lease was acquired. The contract calls for the payment of Mid-Continent prices for the royalty crude, which means $1.60 a barrel at present, as against $1.45 for Salt Creek crude.

According to reliable figures, the royalty oil totals approximate 674,000 bbls. a month, based on November production. At $1.60 a barrel this represents a net income to the Government of $1,078,400 a month, being the most advantageous contract the Government has yet made as to its oil production. The royalty oil will be shipped to Mid-Continent refineries as soon as Sinclair's 720-mile pipe line is completed, which will probably be April 1.

Pan-American Plans Depend on Outcome Of Naval Lease Case

NEW YORK, Feb. 9.—If the Pan-American Petroleum & Transport Co.'s lease of Naval Reserve No. 1 in California is canceled, pursuant to the adoption of the Walsh resolution directing the President to begin court action to cancel leases on naval oil reserves, it would mean a great change in the company's future program.

In the last year or so, Pan-American Petroleum & Transport Co. has been endeavoring to develop properties in this country, most of its expenditures for expansion having been made here rather than in Mexico. Acquisition of the Naval reserve in California, an area of more than 30,000 acres, was the most important step in that direction taken by the company.

Last year Pan-American Petroleum & Transport Co. spent $22,000,000, either directly or indirectly, on work in connection with the Naval oil reserve. This work included the construction of a refinery in the Los Angeles basin, the building of storage tanks and installation of loading equipment. It had been planned by the management to spend an additional $26,000,000 in that work over the course of the next year.

Naval Reserve No. 1 is located in the Elk Hills, about 170 miles distant from Los Angeles. Plans had been made to construct a pipe line this year from the reserve to the refinery. Numerous wells have been drilled by the company, offsetting wells of other companies outside the boundaries of the reserve. These wells serve to protect the reserve from drainage of oil by wells outside.

Directors of the Pan-American voted to withdraw the recent offer to stockholders to subscribe to the capital stock of the Pan-American Western Petroleum Co., which was recently organized to develop the California naval oil leases.

Action of the directors means virtual dissolution of the Western subsidiary which was formed in November with a capital of 1,500,000 shares in which Pan-American Petroleum held a 59 per cent interest. The remaining 525,000 shares were offered to stockholders of the parent company at $20 a share. Through the sale of this stock Pan-American Petroleum planned to raise $10,000,000 to a de to the proceeds from the sale of $12,000,000 in bonds to finance improvement of the California properties.

Pan-American Petroleum Co. has other producing properties in California, located in the Elk Hills, Midway, Taft, Casmalia, McKittrick, Montebello, Ojai, Santa Fe Springs, Torrance, Signal Hill and Huntington Beach districts. There are now being produced about 13,200 barrels a day from 209 wells in those areas. The total extent of those lands is about 27,000 acres. The refinery has a capacity of 40,000 bbls. of oil a day, adjoining which there are two concrete reservoirs with a capacity of 2,750,000 bbls. and steel tanks completed or under construction of a capacity of 4,180,000 bbls. These, together with facilities in the fields, give the company 7,500,000 bbls. of storage capacity. The company had built about 70 miles of pipe line connecting Los Angeles basin pools with the refinery, but so far no pipe line has been built to the Naval reserve.

Construction of the refinery and the rest of the expansion by the company was subsequent to securing the lease of the Naval reserve.

MEXICAN OIL ROYALTIES

NEW YORK, Feb. 9.—Royalties to be paid to the Mexican Government from the production of wells drilled on Federal zone property will depend on the size of the wells, according to a recent decree of the Department of Industry, Commerce and Labor, acting under instructions issued by President Obregon. In view of the fact that the cost of drilling is the same, irrespective of the size of the well, the royalty paid the Government will begin at 5 per cent for small wells, increasing to a maximum of 25 per cent on wells of 50,000 bbls. daily capacity or more. This royalty understanding will now be incorporated in all concessions granted for drilling on Federal zone. The royalty will be fixed following test on the completion of the well with an allowance for decrease in production.

RUMANIAN PRODUCTION

Rumania's production of oil during November totaled about 123,000 tons, among the outputs of the largest companies being the following: Astra Romana, 32,774 tons; Steaua Romana, 18,258 tons; Romana-Americana, 13,406 tons; Creditul Minier, 12,603 tons.

What Does It Cost

To Drop a String of Tubing?

The quickest, surest way to determine the value of pipe that endures is to figure the cost of a string of "dropped tubing."

READING IRON COMPANY
READING, PENNA.

Oil Well Supply Co., Distributors

READING
GUARANTEED GENUINE
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849

Text of the Teapot Dome Contract

Terms of the Agreement Under Which the Government Leased the Naval Reserve to the Mammoth Oil Company

The contract for the development of the Teapot Dome begins by reciting the purposes of the Government in making it, which is to secure for naval purposes with suitable storage a supply of fuel oil. The Government wishes to avoid risk of loss by a lessening of gas pressure and also wishes to create a competitive market and the best possible prices for royalty oil from the public domain in the Salt Creek Field in Wyoming and to receive the royalty for the Navy oil in Teapot Dome in the form of fuel oil and to secure adequate storage for such fuel oil.

For these purposes the Government enters into this lease covering both oil and gas and providing the construction of a pipe line, among other things, to transport the oil from Naval Reserve No. 3 and for the transportation of royalty oil belonging to the Government and produced in Salt Creek Field, Wyoming, should such transportation become necessary.

The lessee is granted the "exclusive right and privilege to drill for, mine, extract, remove and dispose of all the oil and gas deposits" in the sections described for a period of 20 years and so long thereafter as oil or gas is produced in paying quantities. The lands are described and involve 9,321 acres. The right to drill, etc., is given "together with the right to construct and maintain thereon, over, upon and across and under the surface of said lands, all works, buildings, plants, waterways, roads, telegraph and telephone lines, pipe lines, reservoirs, tanks, tank farms and pumping stations, or other structures necessary to the full enjoyment thereof and also the right to construct and maintain upon, across and under any other public lands under the laws and regulations pertaining to the construction and maintenance of pipe lines across the public domain" together with accessories.

The lessees agree to furnish a surety bond in the sum of $250,000 conditioned upon compliance with the terms of the lease.

Must Drill 20 Tests

Also to drill wells, viz: within 180 days from the execution and delivery of the lease to begin operations for the drilling of not less than 20 test wells and to continue work on each well until successful or demonstrated as unsuccessful, but no well shall be abandoned as unsuccessful unless the same shall have been drilled either to the second Wall Creek sand or to a depth which is reasonably estimated sufficient to penetrate that sand. The places where these wells shall be drilled are specified. Tests of the daily production of each of these 20 wells, which are referred to as the first series of wells, are to be made until the production is shown to amount to 20,000 bbls., total average daily natural production, then within 60 days they are to commence operations for the construction of a pipe line of not less than 25,000-bbl. daily capacity, extending to a point of connection with the main pipe line now operated by the Sinclair Pipe Line Co. or on the main pipeline now operated by the Prairie Pipe Line Co. and extending from the Mid-Continent Field to Chicago, Illinois, this pipe line to be a common carrier.

Several plans are provided to determine the time for building the pipe line and if the first series of wells do not produce a daily average of 20,000 bbls. then a second series is to be drilled and in the event of failure to obtain the oil in adequate quantity a third series is to be drilled. At least one of the test wells shall penetrate the Lakota sand before the attempt is pronounced unsuccessful, but the lessee shall not be required to drill in excess of a depth of 4,300 feet.

Upon the completion of these test wells the lessee shall continue in good faith to diligently and fully develop the lands for the production of oil and gas.

The lessee is to drill all necessary wells to offset the wells of others on adjoining lands and to maintain each well in a state of production until each well no longer produces oil or gas in paying quantities when operated with diligence and in accordance with good practice.

Computing the Royalty

Only wells which have a commercial production during at least a part of the month shall be considered in ascertaining the average production for the purpose of computing the royalty. The method of obtaining the number of wells having a commercial production on the lease shall be as follows:

Case 1. Where no new wells have been brought in during the calendar month, count as producing wells each well which has produced 15 days or more during the month, and disregard those which have produced less than 15 days during the month.

Case 2. When initial production of a lease is made during the calendar month, compute royalty on basis of well producing days.

Case 3. When a new well is brought in during the calendar month on a producing lease on or before the 20th of the month, each new well will be considered as a producing well for the entire month, but if such new well comes in after the 20th of the month it shall not be considered as a producing well.

Case 4. "Head wells" that make their best commercial production by intermittent pumping will be considered as steady producers, if so operated throughout the month.

The lessee agrees to sell all the oil to the lessor and to set up an oil exchange credit therefor for which oil certificates are to be issued. The value of this royalty oil shall be the same as the highest posted market price offered or paid either.

1. In the Salt Creek Field, Wyoming, for a majority of the oil purchased in said field, or

2. In the Mid-Continent Field by the Sinclair Crude Oil Purchasing Co., or

3. In the Mid-Continent Field by the Prairie Oil & Gas Co.

Whichever of the above prices is the highest is the one the Government will receive for oil of the same gravity. Such certificates shall be issued on the 10th of each month for the royalty oil produced during the preceding calendar month. These oil certificates shall be non-interest-bearing.

The oil certificate referred to will be redeemed upon presentation to the office of the maker on the following terms:

(a) As a credit upon or for the extinguishment of any obligation to the maker hereof from the United States Government by reason of the construction of steel tank storage for the use of the United States Navy in the storing of fuel oil under this agreement.

(b) The maker hereof will deliver for the use of the United States Navy fuel oil of the specifications and under the terms and upon the exchange basis fixed; or

(c) The maker hereof will deliver gasoline, kerosene, lubricating oils, or other petroleum products for the requirements of the United States Navy, the basis of exchange therefor and the conditions of delivery to be as mutually agreed upon in a separate contract; or

(d) Upon the conditions stated in the contract this certificate may be redeemed in cash.

Providing Steel Storage

The lessee if and when so required to do by the lessor to construct or to pay the cost of constructing steel storage tankage up to, but not in excess of such an amount as shall be estimated to be necessary or required for storage by the lessor of the fuel oil to be received by it as provided in exchange for royalty crude oil from the lands leased. This storage is to be located at points designated by the lessor. The certificates provided may be redeemed in case if the lessor on or before July 1, 1923, notifies the lessee in writing that he elects to so receive payment for the oil to be run in 1924. At the same time he is to notify the lessee of the amount of other products he wishes to receive in lieu of cash. If the notice provided for is not given the lessee will not be required to redeem the royalty oil in cash. The certificates to be redeemed in gasoline, kerosene, lubricating oil or other products shall be subject to mutual agreements between the parties to the contract.

For those certificates which are to be redeemed in fuel oil the lessor shall notify the lessee or its nominee on or before the expiration of 45 days the amount it desires and the place of delivery in compliance with the following limitations:

One (1) bbl. of such fuel oil for each bbl. of crude royalty oil of 34 degrees Baum, or over, represented on the face of the certificates;

Sixty-three per cent (63%) of one bbl. of such fuel oil for one bbl. of crude royalty oil of less than 34 degrees Baume represented on the face of the certificates.

Points of Delivery

Such fuel oil shall be delivered by lessee or his nominee at any of the following points at the option of the lessor expressed as provided in this lease, to-wit:

Houston, Tex.; Pensacola, Fla.; New Orleans, La.; Charleston, S. C.; Annapolis, Md.; Indian Head, Md.; New York, N. Y.; Machias, Me.; Portsmouth, N. H.; Boston, Mass.; Melville, R. I.; Woods Hole, Mass.; New Haven, Conn.; Guantanamo Bay, Cuba; Key West, Fla.; Mobile, Ala.; Washington, D. C.; Baltimore, Md.; Norfolk, Va.; Philadelphia, Pa.; Bath, Me.; Rockland, Me.; Quincy, Mass.; Block Island, R. I.; New London, Conn.; Bridgeport, Conn.; Fall River, Mass.

All deliveries shall be in full tank ship lots at points where shore installations are sufficient to receive the same, except that lessee shall have the right to make delivery in less than a full tank ship lot if he so desires.

Where fuel oil is requested to be delivered at a point where there is no shore installation for discharge of ocean-going vessels, deliveries of fuel oil for such points shall be made at the nearest terminal operated by the lessor where delivery from such vessel is practicable. All expense of making delivery of such oil from said terminal to the place where said delivery is requested to be made, including furnishing of installation and loading and unloading charges, freight and transportation charges, whether by rail or by water, and including barge and lighterage charges, shall be borne and paid for by the lessor.

The manner of delivery and inspection of the oil at point of loading, the manner and rate of discharge from vessel or tank cars, demurrage, notice of arrival, evidences of acceptance, issuance of delivery tickets, method of measuring cargo, force majeure, etc., shall be in accordance with the prevailing commercial practice in the shipping and transportation business with reference to fuel oil deliveries, prevailing at the time such deliveries are made.

As to the said certificates which are to be redeemed in fuel oil, and as well, those certificates which are to be redeemed in gasoline, kerosene, lubricating oils or other petroleum products for the use of the United States Navy, lessee or its nominee shall use due diligence to make such deliveries and shall make the same within a reasonable time after the notice above referred to has been given by lessor notifying lessee, or its nominee, of the amount of fuel oil it desires to have delivered, and the place or places of such delivery, or notifying lessee or its nominee of the amount of gasoline, kerosene, lubricating oils, or other petroleum products which it desires to have delivered, and the place or places of such delivery; and the lessor shall receive such deliveries at the time the same are tendered. For all of such certificates as are to be redeemed in cash, lessee shall

(Continued on Page 122)

CONDITIONS OF LEASE

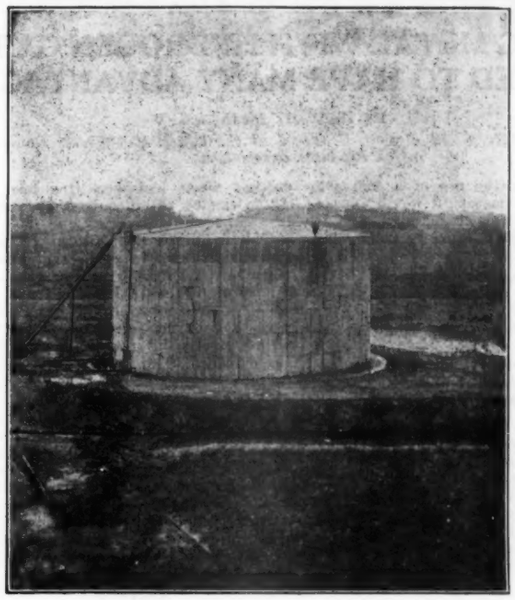
In view of the general interest aroused by the Senate investigation of naval reserve leases the terms of the contract by which the Government leases Teapot Dome to the Mammoth Oil Co., as published in The Oil and Gas Journal of May 4, 1922, are herewith reproduced. The royalty rates are quoted in the article on page 66 of this issue. It may be noted that there have been no allegations during the hearings that the Mammoth Oil Co. has failed to observe or comply with any of these conditions, however onerous they may have proved to be in the light of the development of the property.

Under the terms of the contract, it will be observed, the company was not obligated to begin construction of the pipe line from Teapot Dome to Fremont, Mo., until the production from the reserve reached 20,000 bbls. a day. As a matter of fact it has never reached that, except for perhaps a day when a shale gusher came in, and never for a week or a month. Yet the compny has built that pipe line at a cost estimated around $25,000,000 which will be of great benefit to producers in the Wyoming Field in giving them pipe line connection to the Gulf ports and enabling them to compete with the Mid-Continent and obtain higher prices.

So far from reaching 20,000 bbls. a day the daily average production of Teapot Dome is around 4,000 bbls. and the total production for the whole year 1923 was only 868,980 bbls. The 8,000,000 bbls. of Government royalty oil held in storage at Teapot Dome includes oil from leases in Salt Creek outside the naval reserve.

P.I.W.
STEEL PLATE CONSTRUCTION

Standardizes on OCECO Equipment



Tank for Buckeye Pipe Line Company. P. I. W. Built; OCECO Equipt.

THE Petroleum Iron Works Company—tank builders with 31 years to their credit—have standardized on OCECO Equipment for every round vertical tank to be erected in the future.

Important Savings for Oil Companies

Not only will oil companies, purchasing from P. I. W., now secure this famous steel plate construction, but also thereby realize important **yearly** savings.

For tanks OCECO **Equipt** carry insurance rates considerably lower than possible to obtain on those fitted with ordinary devices.

And, furthermore, there is a satisfaction not measurable in dollars and cents in knowing that your tanks are protected against evaporation losses and against fire by this highly efficient—Laboratory Approved—Equipment.

Consequently, it is anticipated that this action by the Petroleum Iron Works Company, in the interests of better service, will meet with a hearty response.

OCECO Equipment for Tanks

Gauge and Thief Hole Covers
Roof Manhole Covers
Vent Equipment
Cable Sheave Brackets
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123½ So. Center St., Casper, Wyo.
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Distributors
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Republic of Mexico

OCECO

NATURAL GAS DEVELOPMENTS

CUTTING METAL WITH HYDROGEN GAS CLAIMED TO HAVE MANY ADVANTAGES

By H. W. L. Porth

Master Car Builder, Swift & Co. Delivered at the Tenth Mid-Winter Convention Gas Products Association

In determining the use of a fuel gas for the cutting of metals, it would appear as if the conditions enumerated as follows are in direct relation to their relative importance:

1. Safety in the use of the gas.
2. Cost to use the gas delivered at the point of use.
3. The cleanliness of the cut, that is, its freedom from scurf.
4. Speed of the cutting, which is also one of the functions of the cost.
5. Ease of obtaining gas supply.

Safety

The use of any kind of fuel gas at the best calls for sensible handling and in no measure can any gas cutting or welding process be considered as being foolproof. Hydrogen is a very safe gas to use as a fuel. The explosive limits are given by the Bureau of Mines as from 10 per cent to 66 per cent in air or a range of 56 per cent. Hydrogen will not, of itself, explode.

Cost

The cost for determining the use of a fuel gas should include all elements that make up a completed job; these are: (a) cost of the fuel gas; (b) cost of oxygen; (c) cutting labor and any resultant labor in cleaning the cut after completion with cutting torch; (d) extra cost of equipment or extra depreciation on equipment, directly incident to the use of that particular gas.

In a cutting test made a short while ago, on test pieces varying from ⅝-inch to 3 inches thick and 36 inches long, using an electrically driven machine cutting torch, we found, using hydrogen on the basis of 1.00 per 100 cubic feet that the cost per cubic inch of metal cut was .0068. This included all items of cost to use hydrogen for cutting except fixed charges on apparatus.

Uses in the Field

One of the extensive uses of gas for cutting is in field fabrication where rivet and bolt holes can readily and easily be cut in plates and shapes. On reaming such holes, it would be expected that the tool expense would be much less on hydrogen cut holes.

Cleanliness of Cut

A much cleaner cut is obtained with the use of oxy-hydrogen cutting torch, in as much as the scurf resulting from the cutting is practically negligible. This very much reduces the trimming necessary to make a satisfactory job.

Any gas cut is not comparable with a shear cut, in good appearance, but hydrogen cutting more closely approaches the straight, clean cutting by shearing.

Speed

In the tests referred to, we found that greater speed was possible with the use of hydrogen.

The temperature of the oxy-hydrogen flame is given by various authorities at from 2007 degrees C. to 3191 degrees C. The flame when properly adjusted, as given later in detail, is sufficient to preheat metal to be cut, then greater speed can be attained.

Gas Supply

In order to make the use of any fuel gas a success, it must be easily obtained at the point of use, so that delays resulting because of lack of gas are negligible, or, of they do result, can be easily overcome by quick delivery from the source of supply.

Equipment Used for Cutting

The same kind of equipment is used for cutting when hydrogen serves as fuel gas, except that it differs in kind. Any ordinary cutting torch can be used for cutting when hydrogen tips are used. These can be obtained from the apparatus manufacturers.

The hydrogen and oxygen regulators are exactly similar as to the pressures required. They differ in that the hydrogen regulator has a left hand nut, with which to attach it to the gas cylinder, while the oxygen regulator is equipped with a right hand nut to attach it to the gas cylinder. This serves as a safety to prevent using hydrogen regulator on an oxygen gas cylinder and vice versa. The high pressure gauges, 0 to 3,000 pounds are the same on both regulators. The low pressure gauges are 0 to 50 pounds for hydrogen regulator and 0 to 500 pounds for the oxygen regulator. In addition to this, we use a left hand nut on the hydrogen hose and solder a left hand threaded brass nipple to the hydrogen regulator, so that the gas hoses cannot be attached to the wrong gas opening.

Operation

The method of operating oxy-hydrogen cutting torch is the same as with any other fuel gas, except in regulation of the flame after gas cylinder valves and the regulators are opened. The hydrogen is turned on at the torch and the regulator adjusted to the proper pressure for cutting, according to charts furnished by the apparatus manufacturers. These pressures are usually 5 to 10 lbs. The hydrogen is then ignited. Then the oxygen is turned on and the flame adjusted as follows: The oxygen supply is controlled through the preheating valve, with the torch held about 2 inches above a cold steel plate, until the black spot in the flame disappears. In the adjustment, the torch must be made to approach the steel plate so that the operator can be certain that the black spot has been eliminated from the flame. This is a very essential adjustment to good operation. The oxygen regulator is then adjusted to the proper pressure for cutting the thickness of metal.

One of the decided operating advantages of using hydrogen is the fact that rust and scale, that is usually prevalent on any steel to be cut, has little or no effect on the cutting torch or the rate of cutting.

When cutting is discontinued for the day, the regulators should be closed and the hoses disconnected from the regulators. This avoids any possibility of gas leakage through defective valves building up explosive mixtures. This safety precaution should be taken regardless of the kind of fuel gas used.

One of the decided advantages of using hydrogen is the great depth that can be cut with it. This would seem to indicate wide demand for the process in steel plants, heavy foundries and scrap yards.

Some of the uses that hydrogen could be used for would be: (1) For "lead burning" in storage battery manufacturing plants and battery repair shops; (2) for "lead burning" in chemical industry, where lead lining of steel and wood tanks is quite widely used; (3) for welding thin sheets up to 16 gauge in general repair work. We have successfully welded 12 gauge. (4) For cutting purposes universally, where a portable gas cutting process is desirable, such as: (a) General cutting in connection with locomotive repairs at either large shops or roundhouses. Much time and labor can be saved in cutting boiler side sheets, flue sheets, tubes, flues, crown bolts, staybolts and rivets. Old staybolts can easily be cut out, new ones applied, cutting them off ready for heading over. (b) In general welding of any kind for beveling the parts to be welded or cutting out the material, to permit of welding thick sections. (c) Cutting risers and gates from castings on the foundry floor before castings are cold. (d) In forge shops, for auxiliary cutting preparatory to forging, saving both time and labor. (e) Beveling pipe preparatory to welding pipes in oil and gas lines, cutting entries in a constructed line to weld an auxiliary line to the main. (f) In scrap yards, for cutting heavy pieces into more merchantable sizes and in dismantling fabricated materials for the separation or classification of scrap.

Ever since the introduction of gas cutting processes, there has been a more or less radical attitude against the use of hydrogen. Even as long as 10 years ago, the writer recalls the "dangers" of flashback that was related regarding the use of hydrogen. The use of flashback tanks and all that was held up as of vital necessity to the safe use of this gas. This is all an effort to discourage the use of hydrogen. As related previously, the use of hydrogen is even more safe than other much heralded gases. We have used it continuously for nearly two years in our repair shops, with continued good success and economy.

MUNICIPAL GAS PLANT IS HELD IMPRACTICABLE

OKLAHOMA CITY, Okla., Feb. 9.—A municipal gas plant, proposed by W. F. Vahlberg, commissioner of finance, was opposed by Warren E. Moore, Commissioner of Public Works and Bob Parman, Commissioner of Public Safety.

"The citizens couldn't get a municipally owned gas plant here for less than $3,000 000," said Moore.

"Not only that," asserted Parman, "but it would necessitate the buying of the present company's city pipe lines and virtually absorbing that concern, stock and good will."

"Yes," continued Moore, "and if they didn't buy the present holdings of the gas company they would be compelled to tear up the city streets and lay their own lines at an expensive outlay to the city."

Vahlberg's estimates of the cost was $500 000 by piping gas from the Chickasha field.

"It is difficult at present for me to see where the city would profit in a short time in spending the vast amount of money needed to carry out the proposed enterprise," said Moore.

TO SAVE CARBON BLACK GAS

MONROE, La., Feb. 9.—Important investigations are being made by carbon companies of northeast Louisiana to find means by which heat from the manufacture of carbon may be utilized in the manufacture of other products and by which the plants may succeed in eliminating waste of gas. It is stated that only a small per cent of the potential heat possessed by the gas is saved and it may be utilized in the manufacture of other products eliminating waste. It is stated it may be possible to utilize 90 per cent or more of the heat in other manufacturing as a result of the researches being made.

PROTEST CARBON LAW

CASPER, Wyo., Feb. 9.—A law suit has been started at Cheyenne to again test the carbon black law of Wyoming. The plaintiffs aver that their gas production and income have been discriminated against by the law and that the act is unjust as it prohibits the plaintiffs from gaining a livelihood from same. The plaintiffs owned some gas wells in the Big Horn Basin and the production was sold to the Utah Wyoming Oil Co., which sold it to the Midland Carbon Co. and the Midland's plant was shut down by the act at the end of 1919.

GAS LINES RECLAIMED AND EXTENSIONS MADE

An interesting report on the work of the gas transportation department of the Empire Companies has been compiled by V. C. Jarboe, superintendent, and passed to H. L. Montgomery, manager of the gas division. The report covers the more important work of the gas pipe line department for 1923 and shows the activities of this department in the gas division. Perhaps the most interesting feature of the work of the department is the reclaiming of pipe lines to abandoned fields and the work of laying 141 miles of lines to new fields for an additional supply of gas. The 43 miles of Cambridge-Burbank 10-inch and 12-inch is the most important of the new lines constructed for the reason that it provides facilities for a new gas supply. Other extensions consisted of 16 miles of 8-inch, 17 miles of 12-inch and a number of gathering lines which totaled approximately 13 miles of 4-inch and 19 miles of 3-inch.

During the year 1923, 101 miles of line were reclaimed of various sizes, amounting to approximately 48 miles of 10-inch, 21 miles of 12-inch and 27 miles of 3-inch and 5 miles of 8-inch.

During the year approximately 12 miles of pipe line was moved on account of hard surfaced road construction and 7 miles of this was 16-inch pipe.

GAS PLANT FOR SHREVEPORT

SHREVEPORT, La., Feb. 9.—The J. S. Cullinan interests during the year will probably establish a centralized gas plant here from which gas for generating power will be distributed to a number of important cities of the South and West, F. M. Witherspoon, geologist of the Louisiana Oil Refining Corp., declared in an address before the Civitan Club. According to Mr. Witherspoon, the matter has been pending for some time and the Cullinan interests have bought a 20-foot right of way from the Monroe gas field to Shreveport, ostensibly for the purpose of laying their lines.

Mr. Witherspoon predicted the completion of the plant during the present year.

CONTRACT FOR WYOMING GAS

CASPER, Wyo., Feb. 9.—The Hatfield Oil Co. at Rawlins has closed a contract with the Producers & Refiners to supply gas up to 8,000.000 feet per day for use at the Parco refinery of the Producers & Refiners. The contract calls for 4 cents per thousand, the gas to be delivered at the well. This gives the Hatfield Oil Co. an outlet at once for the gas production found in the Eight-Mile Lake structure with no expense to the company as the Producers & Refiners will lay a pipe line from the refinery to the Hatfield properties. This line will be about 12 miles long.

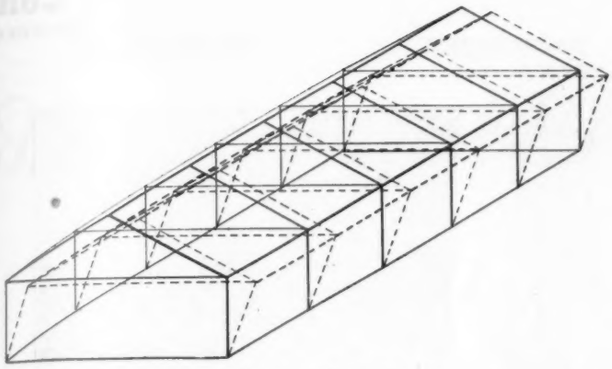
GASSER IN CORSICANA FIELD

CORSICANA, Tex., Feb. 9.—The test on the Hill tract, drilled by John Hoener, developed a gigantic gas flow at a depth of 1,270 feet, it is announced. The flow has been estimated at 4,000,000 feet per day. It is reported the well will be drilled down in the hope of unearthing an oil flow in the deeper sands.

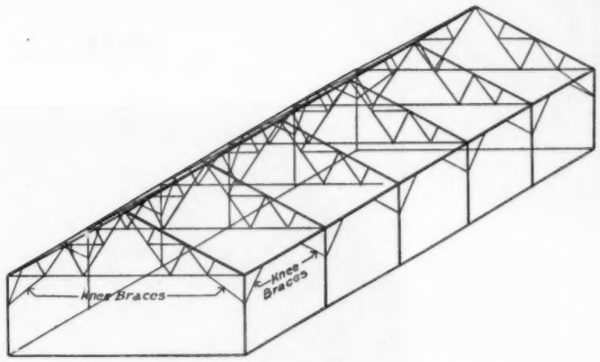
NEW GRAHAM GASSER

ARDMORE, Okla., Feb. 9.—The Schermerhorn-Young Co. has brought in another good gasser in the Graham Field in its No. 8 Sparks, making 20,300,000 feet from sands at 1,756-61, 1,862-75 (broken), 1,880-92 (broken), 1,910-25 (broken) and broken sand from 1,962 to total depth of 2,212 feet. Rock pressure tests 816 pounds.

Ample Wind Protection



Wind Distortion Without Knee Braces



Rigidity With **Indco** Knee Braces

Years of experience in building the larger type of steel buildings for the Oil and Gas Industry have determined the necessity of proper construction to withstand strong winds.

The knee-braces as built into Indco buildings is insurance against a distortion from wind pressure. They hold the sides rigid with the roof truss and prevent any buckling or collapse. Placing these braces in a building throws additional stresses in all steel members of the trusses and columns that require careful attention and competent designing.

This is only one of the many features that are based on sound engineering reasoning and are incorporated into the construction of Indco Buildings. Overlooking any one of these principles may constitute a danger to life, a loss to the building and machinery with its consequent loss of production.

An estimate from our engineering department will be a guarantee of reasonable price, a quality building and Service of the highest order.

Industrial Construction Company

Central Nat'l Bank Bldg. Tulsa, Okla.

Branch Office, Dallas, Texas

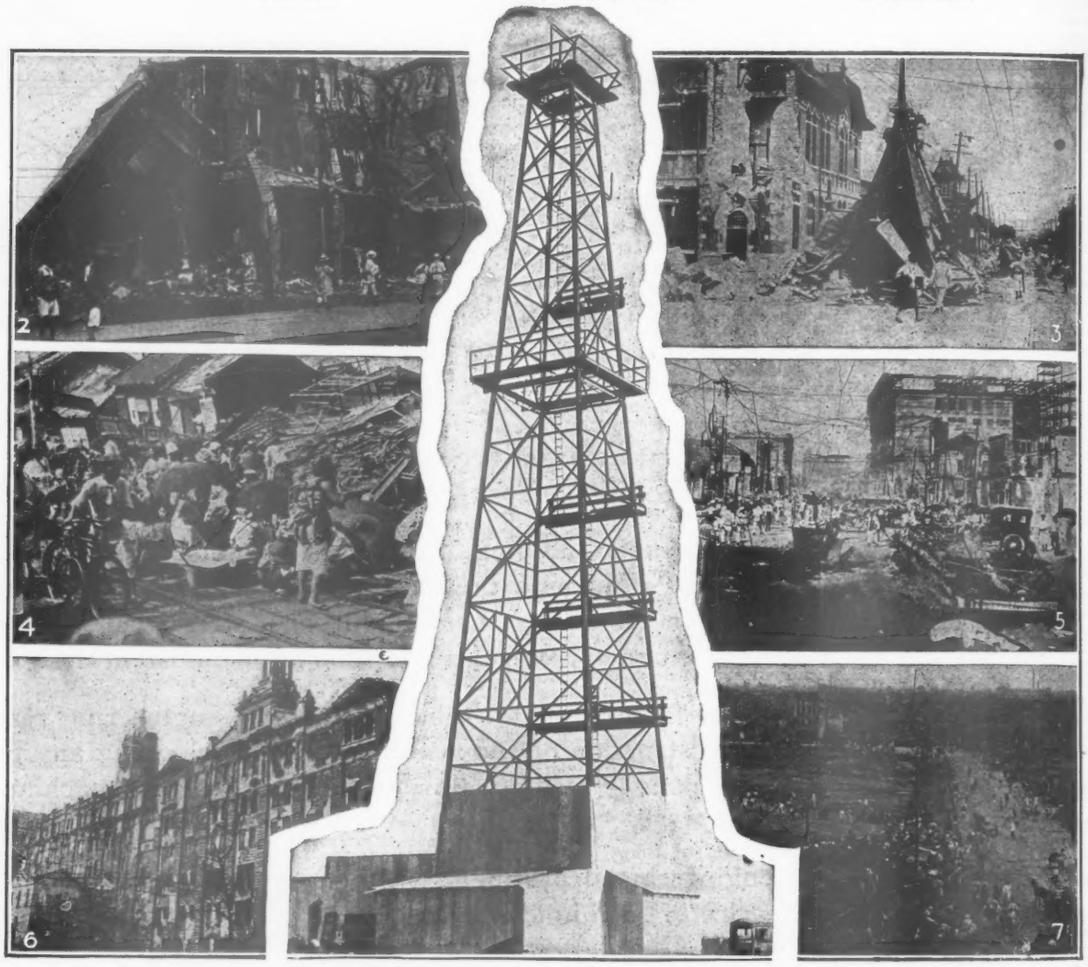
INTERNATIONAL DERI

Colum

BRANCH OFFICE

CA

TULSA SHREVEPORT HOUSTON

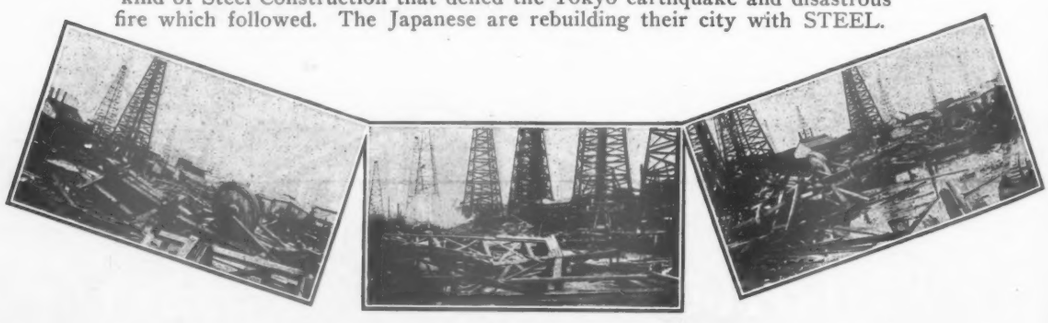


SHOWING DAMAGE DONE IN TOKYO BY EARTHQUAKE OF SEPTEMBER 1, 1923.

2.—Maruzen Book Store; principal damage in upper part. 3.—Office of Andogumi; heavy tower hurled to street. 4.—Tile roofed houses destroyed. 5.—Uninjured modern buildings; note the Ginza Building (Steel Structure) under construction. 7.—Effects of fire after the earthquake in Asakusa ward. **IDECO STEEL DERRICK (in center picture) is typical of California safety practice.**

IDECO STEEL (Galvanized) DERRICKS go up from the ruins after every big storm in the Oil Fields. Why not safeguard your investment before the storm?

IDECO STEEL DERRICKS are built of Beams, Bars and Angles—the same kind of Steel Construction that defied the Tokyo earthquake and disastrous fire which followed. The Japanese are rebuilding their city with STEEL.



ERICK & EQUIPMENT Co.

olumbus Ohio

CH OFFICES AND WAREHOUSES

LOS ANGELES BAKERSFIELD OIL CITY

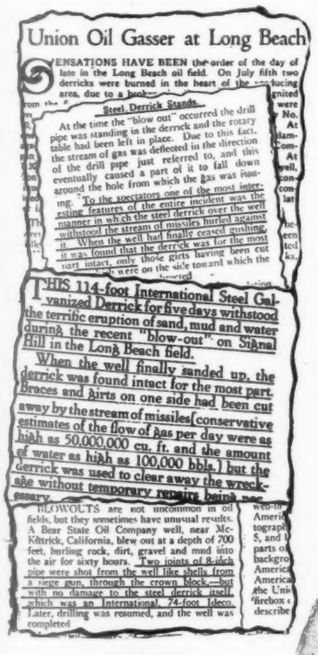
The Strongest Derrick

Behind IDECO products is an Engineering Service, specializing in Oil Country practice and a large modern plant.

There is a specific IDECO Steel Rig for your every requirement.

The experience of the many big producers using IDECO EQUIPMENT is convincing. IDECO PRODUCTS "stand the gaff" throughout years of hard service.

Write for Descriptive Literature



Union Oil Gasser at Long Beach

SENSATIONS HAVE BEEN the order of the day of late in the Long Beach oil field. On July fifth two derricks were burned in the heart of the producing area, due to a blow-out from the ignited

Steel Derrick Stands

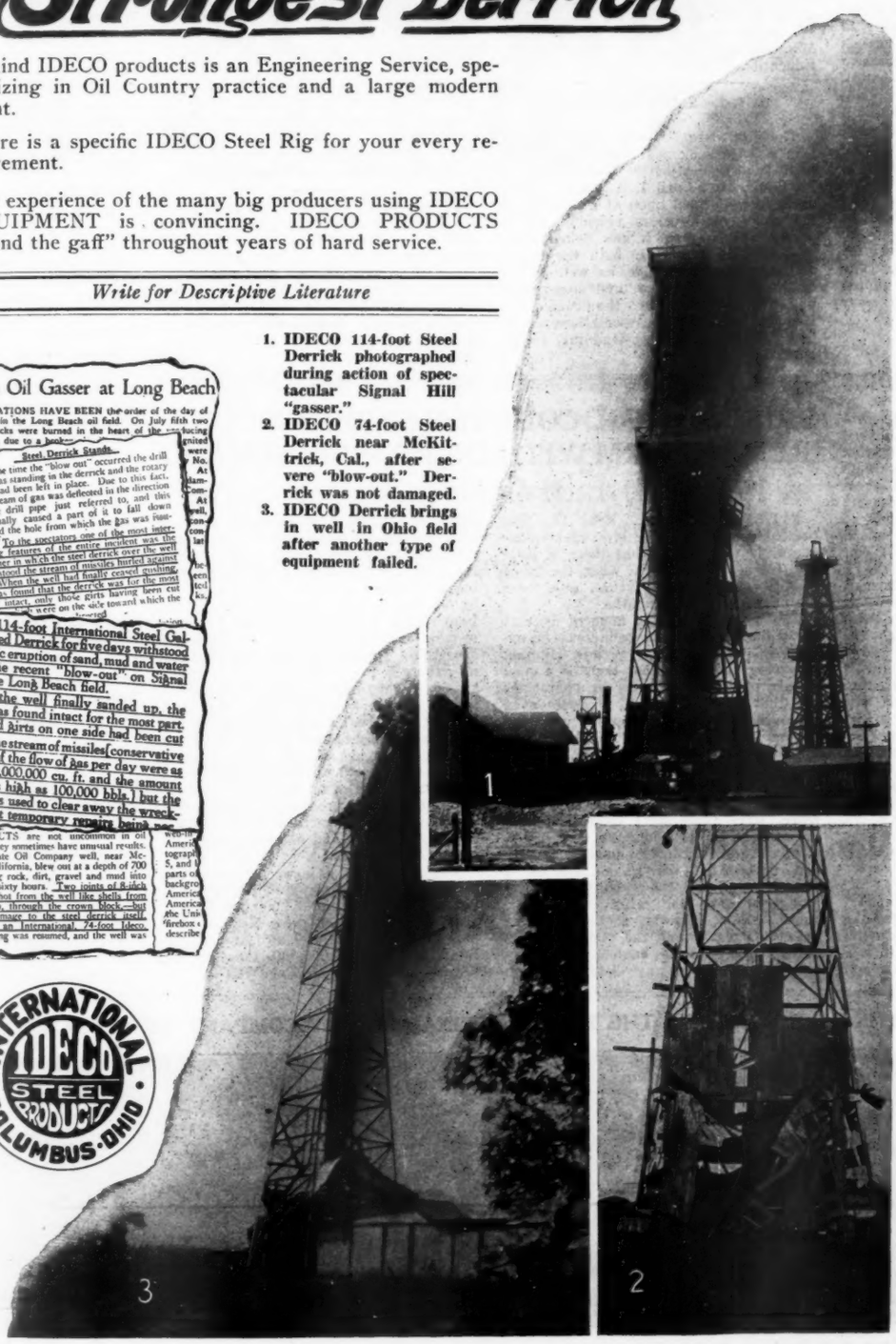
At the time the "blow out" occurred the drill pipe was standing in the derrick and the rotary table had been left in place. Due to this fact, the stream of gas was deflected in the direction of the drill pipe just referred to, and this eventually caused a part of it to fall down around the hole from which the gas was issuing. To the spectators one of the most interesting features of the entire incident was the manner in which the steel derrick over the well withstood the stream of missiles hurled against it. When the well had finally ceased gushing it was found that the derrick was for the most part intact, only those parts having been cut away which were on the side toward which the

THIS 114-foot International Steel Galvanized Derrick for five days withstood the terrific eruption of sand, mud and water during the recent "blow-out" on Signal Hill in the Long Beach field.

When the well finally sanded up, the derrick was found intact for the most part. Braces and girts on one side had been cut away by the stream of missiles [conservative estimates of the flow of gas per day were as high as 50,000,000 cu. ft. and the amount of water as high as 100,000 bbls.] but the derrick was used to clear away the wreckage without temporary repairs being nec-

BLOWOUTS are not uncommon in oil fields, but they sometimes have unusual results. A Bear State Oil Company well, near McKittrick, California, blew out at a depth of 700 feet, hurling rock, dirt, gravel and mud into the air for sixty hours. Two joints of Reich pipe were shot from the well like shells from a siege gun, through the crown block,—but with no damage to the steel derrick itself, which was an International 74-foot Ideco. Later, drilling was resumed, and the well was completed

1. **IDECO 114-foot Steel Derrick photographed during action of spectacular Signal Hill "gasser."**
2. **IDECO 74-foot Steel Derrick near McKittrick, Cal., after severe "blow-out." Derrick was not damaged.**
3. **IDECO Derrick brings in well in Ohio field after another type of equipment failed.**



INTERNATIONAL IDECO STEEL PRODUCTS COLUMBUS · OHIO

EQUIPMENT AND SUPPLIES

RESISTANCE TO WEAR STRESSED IN PRODUCT

Flexibility, strength and unusual resistance to wear, as well as special adaptability to rotary drilling conditions, are the advantages claimed for Goodall Semi-Metallic hose in a booklet recently issued by the Continental Supply Co., distributors of the Goodall products. The ball joint feature prevents the hose from being kinked, no matter how it is bent or distorted, and keeps the internal clearance uniform at all times, according to the booklet. External wear also has no effect upon Goodall hose as the abrasive surfaces come in contact only with steel.

"The severe conditions of rotary drilling service are entirely met by Goodall hose," the booklet states. "This type of hose is built with the highest grade rubber tube and is capable of withstanding the excessive wear occasioned by the flow of 'slush mud' through the hose. The heavy steel armor, while competent to withstand the highest pumping pressures, allows a very large margin of safety for unusual and temporary pressures. The continuous steel covering also affords complete protection from outside wear and damage."

CORRECT METHOD OF BURNING FUEL OILS

Two booklets dealing with problems in the use of oil as fuel have been published recently by the Mahr Manufacturing Co., of Minneapolis, Minn. One of them treats in considerable detail upon "The Correct Method of Burning Fuel Oil," discussing the relative merits of the four types of fuel burners: the vapor burner, which passes the fuel through or over a hot surface so as to convert the oil to a vapor or dry gas; the mechanical burner, which atomizes the fuel by passing it through small orifices under high pressure; the spray burner, in which the atomization is accomplished by passing the oil through a nozzle in the path of a jet of air; and the closed combustion type of burner which operates on low pressure air between 8 and 12 ounces per square inch. This latter type, according to the booklet, makes it possible to burn the fuel with practically no excess air due to the thorough mixing and burning of the fuel in a small space under exceedingly high temperatures. All of the fuel and air that enters this type of burner is under control of valves, hence it is easy to obtain the correct balance.

"The term 'oil burner' is a misnomer," says the booklet, "as a great multitude of burners are merely atomizers spraying oil into the furnace. The furnace in this case must mix, gasify and burn the fuel. A burner cannot rightfully be called a burner unless it completes the combustion of the fuel without external aid, that is, it must be independent of the furnace. The function of the furnace is not to burn the fuel but to conserve and distribute the heat developed by the burner."

Various types of furnaces, venting methods, materials, and methods of handling the oil, as well as the kind of oil to use are also discussed.

The other booklet is a reprint of an address delivered at the annual meeting of the American Petroleum Institute by W. M. Horner, president of the Mahr Manufacturing Co., on "Institutional, Educational Advertising of Oil as Fuel."

OIL BURNER MEETING

The first annual meeting of the American Association of Oil Burner Manufacturers will be held at the Hotel Chase, in St. Louis, Mo., April 1, 2, and 3. These dates were decided upon at a meeting of the board of directors recently and a program of speakers is now being made. The subjects will cover both the industrial and domestic fields, as well as the distribution of burners, and suggestions will be welcomed by the committee. Headquarters of the Association are at 518 Bank of Galesburg Building, Galesburg, Ill.

STRONGER PUMP JACK FOR HEAVIER LOADS

A new pump jack, designed to meet a demand for an exceptionally strong jack, has just been placed on the market by the A. Y. McDonald Manufacturing Co., of Dubuque, Iowa, makers of a large line of oil handling equipment.

The new jack, which is known as No. 402½, is somewhat similar to the company's No. 402, the principal difference being that it is built exceptionally strong in every detail and is capable of handling unusually heavy loads. It is double back geared, 12 to 1, and is especially adapted for use with high speed electric motors. It can be bolted to the floor, fastened to a post or hung from a ceiling beam.

NEW ATTRACTIVE BOOKLET

An unusually attractive 44-page booklet printed throughout in two colors, has just been distributed to the trade by Bear Tractors, Inc., of New York. The story of the remarkable performance of the Bear Tractor under all kinds of conditions, including the muddy roads of the oil country, is graphically related in a series of two dozen striking photographs.

HUGHES TOOL CO. WILL ERECT NEW BUILDING

The contract for the erection of an all-steel building to house a complete new steel foundry which is to be the latest in design and workmanship and which, when completed, will cost about $75,000, has been awarded to the Houston Structural Steel Co. by the Hughes Tool Co., of Houston, Tex. A feature of the construction will be the use of aluminum finished sheet steel.

"Use of highly finished steel in building construction is something new in this section of the country," declares C. E. Kievland of the engineering department of the Houston Structural Steel Co. "The aluminum finished steel was chosen by the Hughes Tool Co. because it reflects light and lends an air of cheerfulness to a plant in a manner that ordinarily finished steel could not do."

Work on the new foundry was started this week and it is expected that it will be completed by March 1. The building, which is to be 80 by 120 feet in size, is to cost about $22,500 complete, and the machinery approximately $52,500. Machinery will be installed as soon as the building is completed.

Each piece of machinery that is placed in the new quarters will be the best and most modern that money can buy, and the plant will be equipped to turn out the best quality of foundry products. Among the features of machinery will be a 5-ton electrically driven crane and an electric melting furnace. Every modern convenience will be installed and the utmost in light and ventilation will be afforded to the workers.

HAS EXCLUSIVE RIGHT FOR MANUFACTURING

The spiral stem for cable tool drilling, which has met with distinct success in the past few years, is to be manufactured in the future exclusively by the Titusville Forge Co., Titusville, Pa., according to a recent announcement. An important improvement in the manufacture of the stem will be incorporated by this company in the use of steel forgings instead of steel castings which have been used in the past.

Exclusive rights for the manufacture of the spiral rotary drill collar, for rotary drilling, have also been acquired by the Titusville Forge Co. This collar is proving to be as radical an improvement in rotary drilling practice as was the spiral stem in cable tool drilling.

A number of other patented devices are being perfected by this company and will be announced shortly.

PRICES ON OIL COUNTRY STEEL GOODS REMAIN FIRM WITH INCREASED DEMAND

By B. E. V. Luty

PITTSBURGH, Pa., Feb. 11.—The present condition of the steel making industry is well known, but there is little positive assurance as to what the trade conditions will be in future, even over the next four or five months.

The condition at the moment is that the mills have had a large increase in operations, whereby they are now running at a very good rate, that there is a good supply of orders for current operations and that prices of all mill products, even those that showed considerable weakness or irregularity at times in the second half of last year, are quite firm.

With the style of doing business that prevailed before the war, the mills would have a secure future for six months or more, when there were conditions such as would make them increase their operations as they have had to do since December. Before the war, when there was a good demand, buyers bought far ahead and thus gave the mills heavy order books. Now, however, that is not the policy. Excepting in the two lines rails and tin plates, buyers have not been committing themselves any distance ahead. They do not place contracts to any extent, but rather place specific orders, for delivery over short periods. Thus while the mills are very active now in producing and shipping their order books are by no means well filled and they must keep selling from week to week in order to maintain their operations. Thus while everything is moving very satisfactorily now there is a possibility of a downward swing in buying at any time, which would almost overnight give the steel market a different complexion. These observations apply to steel in general. Rails and tin plate are already an exception, by being well sold up, and tubular goods are more or less of an exception for they have well defined prospects of heavy consumption, both of merchant pipe in the building industry and of casing and tubing in the oil fields.

The rate of steel ingot production at present may be estimated at probably between 43,000,000 and 44,000,000 tons a year, comparing with rates of 35,000,000 tons at the lowest level of last year, in December, and 49,000,000 tons at the

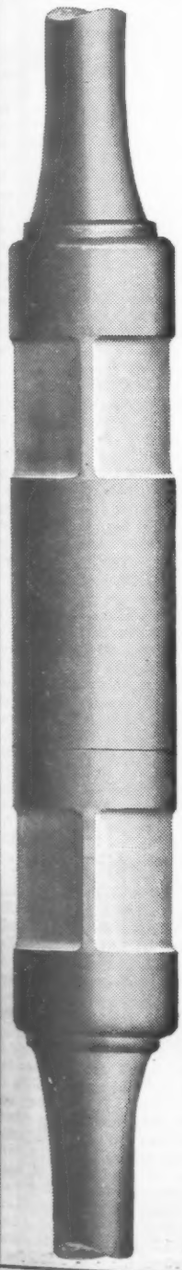
(Continued on Page 76)

MEETING OF THE LIVE WIRES OF THE INTERNATIONAL SUPPLY COMPANY AT TULSA RECENTLY

Back row, left to right: George Bell, S. D. Clarke, R. H. Shields, M. E. Parr, B. Whales, R. W. Neal, D. D. Kerr, W. Jarvis, H. S. Ulrich, G. A. Scott, E. S. McKeever, manager of sales; W. H. McKissick, J. C. Smith, J. C. Stobaugh, G. A. Harris, C. Shupert, assistant manager sales; Sig. Iverson, E. G. Blaylock, J. W. Jim Sloan, president; Miss Greve, W. W. Stumph, C. O. Goodyear, E. E. Swan, Salty Clark, A. F. Bourne, B. G. Latshaw, Fred Redell, F. R. Brooks, P. M. Iverson, S. E. Savage, secretary and treasurer. Front row, left to right: R. E. Dow, M. Q. Wilson, G. A. Keefe, J. D. Swarts, H. G. Durnell, A. A. Lasher, J. C. Ingle, Tom Moore, Mart Muller, William Wright, G. H. Jennings, H. H. Rank, H. S. Lindenmuth, E. J. McCandless, C. R. Williams, H. H. Bailey, C. A. Wilhoft, J. D. McLin, J. H. Ash, H. Jones, W. D. Taylor, P. Corgiat, E. D. McEwen, P. E. Thayer. Those not appearing in the picture were E. A. Shaw, vice president; C. W. Moore and J. A. Grigsby.

For Inherent Strength—No Sucker Rod Made Equals

JONES ACME STEEL SUCKER RODS



WE use steel of special analysis, made to our own specification—based on our score and half years experience. We don't take the mill's word that the steel is right. In our own laboratories we test every length of rod for structure—for uniformity.

We use testing machines, especially made for this service, so that we know when JONES RODS go into the field they will render complete satisfaction.

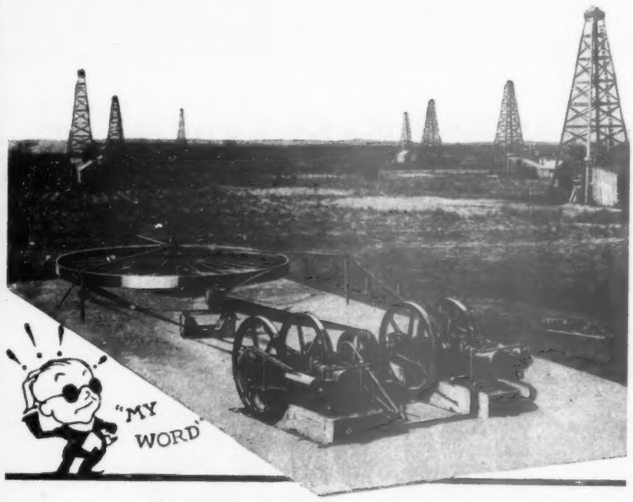
We invite those companies who employ technical engineers or maintain laboratories to make a comparative test of JONES RODS —we have no doubt of the result!

The S. M. Jones Company

Established 1893

Representatives Everywhere There's Oil

Toledo, Ohio



IF YOU have a taste for smooth latent power, feast your eye on the scene above. Another few hours and the installation will be snugly under roof, with nothing more to indicate its nature than surface rods radiating to wells in that vicinity.

As you've already surmised, the central driving pulley between them permits either of the 40 h. p. Reid Gas Engines to be used at option.

The Reid All-Metal Underpull Band Wheel Power at yonder end of the concrete block is a full 24-feet across, with a 24-inch eccentric and the force feed oiling system characteristic of Reid Powers.

Fancy a load, if you can, that this oil country brute couldn't handle with ease! Ask yourself if there's any likelihood that it will ever be necessary to close it down. Even granting that some time—a long, long time from now—one of those Reid Gas Engines will need repairs or replacements, there's always the other one, you know, ready for business.

This particular Power Plant is on the Dale Farm, in Block 835, near Electra, Texas. Our Engineering Department makes a specialty of this installation. And every oil man, everywhere, knows about the equally infallible 16 and 18-foot Reid Band Wheel Powers, standard in the oil country for many years.

It won't cost you a cent or obligate you in any way to have us figure on installing a Power Plant for you that will meet your requirements exactly. Take it up with the Frick-Reid Store near you, or write our Tulsa office.

In Oil Field Equipment—the Most HUMAN Organization in America.

Frick-Reid Supply Co.

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

OIL COUNTRY STEEL PRICES REMAIN FIRM

(Continued from Page 74)

highest rate of last year, in April. Thus there has been a remarkably great increase in production. Part of this is due to the United States Steel Corp. stocking semifinished steel, to insure full operation of its finishing departments later on, perhaps also as insurance against a coal strike interfering with pig iron and steel production, and part is due to jobbers and manufacturers replenishing stocks. There is no reason to believe the rate of actual consumption of steel has increased. Apparently buyers were liquidating stocks in the last two or three months of last year and are now replenishing them, whereby consumption was then below production and is now above production. The change in buyers' attitude, from liquidating stocks to replenishing stocks, is plainly due to renewed confidence in steel prices. Bars, shapes and plates, if not some other finished steel products, were expected to decline, but the mills stood their ground, maintaining prices, and now the great increase in their orders removes any possible temptation to cut prices, so that the price matter is thoroughly settled for the time being, or until conditions change.

Demand on the pipe mills for oil country goods has continued to increase, and orders are coming in at a rate entirely satisfactory to the mills. The mills are, in fact, limiting the tonnage to an extent, being unwilling to take on obligations any considerable distance ahead. Prices of oil country goods are absolutely firm, on the basis of lists issued last April. Nearly all the pipe mills are running substantially at capacity.

The inquiry of the Standard Oil Co. of New York for oil storage tanks, mentioned in last week's report, has resulted in orders being given to the Warren City Tank & Boiler Works and the Petroleum Iron Works Co. for tanks involving about 4,500 tons of plates. Reports are that plate mills in the Chicago district expect a revival in oil storage tank business on account of new wells in Oklahoma.

One of the oil companies is out with an inquiry for 100,000 boxes of tin plate for delivery March, April and May, to make export containers, and there is some other oil plate business in sight. This business appears despite the heavy buying in the last two months of last year, for various deliveries in the present half year, and it is plain that the oil companies expect very heavy oil exports during this spring and summer, quite possibly at a new record rate. The domestic market is very firm at $5.50 and little concession is made on export tin plate or the so-called "re-export" tin plate, which means tin plate for export containers, where the domestic tin plate is in competition with practically duty free imported tin plate.

NORTH TEXAS FIELDS

(Continued from Page 58)

at 1,050 feet; Gulf Production Co.'s No. 7 Jennings, drilling at 720 feet; No. 9 Jennings, drilling a sand at 98 feet; No. 3-C Jeff Waggoner, drilling in shale at 1,030 feet; Hartford Trust Co.'s No. 6-A Burnett, drilling at 1,495 feet; Magnolia Petroleum Co.'s No. 3-A Waggoner, drilling in shale at 1,530 feet; No. 6-B Waggoner, drilling at 930 feet; No. 2 Pere Waggoner, drilling in brown shale at 1,545 feet; No. 67-B Burnett, underreaming 5⅞-inch casing at 2,146 feet; Perkins and others' No. 2 Burnett, setting 6⅝-inch casing on top on an oil sand at 910 feet; Ryan Petroleum Co.'s No. 12 Nance, has 400 feet of oil in the hole from a sand at 1,270 feet and are fishing for lost tools; Sooner Oil Association No. 7 Roberts, drilling with a machine at 1,050 feet; Sproles and others' No. 1 Fisher, drilling at 1,400 feet; Simms Oil Co.'s No. 15 Burnett, cleaning out and bailing and testing a sand at 1,537 feet; Wiley and others' No. 1 Jeff Waggoner, pumped 6 bbls. in four hours from a sand at 1,245 feet; will drill deeper; Texhoma Oil & Refining Co.'s No. 130 E. Waggoner, drilling at 915 feet. No. 4-A Burnett, coring a sand at 1,830 feet; Waggoner and others' No. 1 Jeff Waggoner, drilling at 1,440 feet, passed up two sands at 1,200 and 1,300 feet; American Refining Co.'s No. 1 K. & K., set and cemented 6⅝-inch casing at 1,798 feet; Gresham and others' No. 1 Huff, drilling at 200 feet; Kentucky Oil Corp.'s No. 2 Kemp, moving 6⅝-inch casing at 1,319 feet; Nabor and others' No. 1 Parker, drilling at 940 feet; Scott and others' No. 2 Chilson, resetting 6⅝-inch casing at 1,816 feet; Shappell and others' No. 4 Jackson, drilling in brown shale at 800 feet; No. 5 Jackson, spudding; Sims Oil Co.'s No. 1 Dutton, drilling in soft rock at 1,300 feet; Taylor and others' No. 1 Henderson, drilling in shale at 1,670 feet; Texhoma Oil & Refining Co.'s No. 3 Hamilton, has 800 feet of fluid in the hole and drilling an oil sand at 1,818 feet.

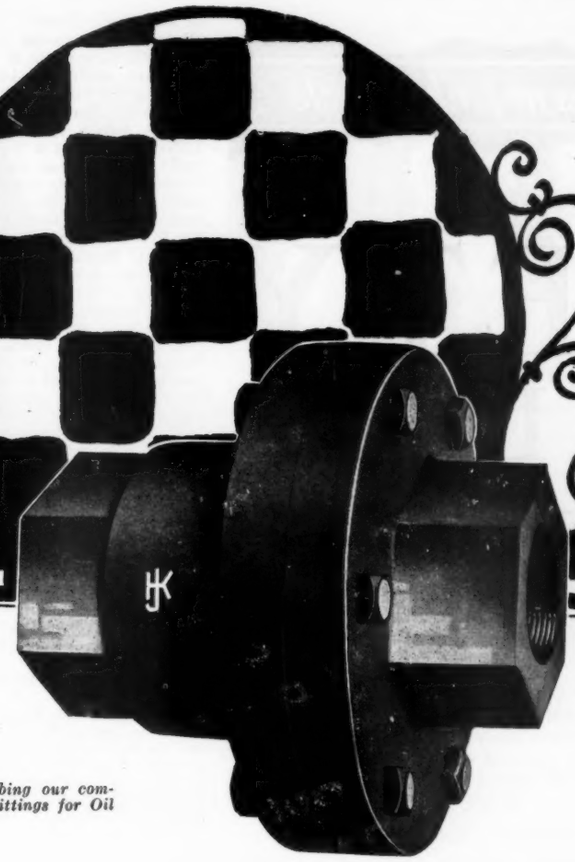
Wilbarger County

Drilling—Apple and others' No. 1 Ancell, drilling at 685 feet; Robinson and others' No. 1 McCaleb, casing frone at 2,185 feet; Noble Oil Co.'s No. 1 Waggoner, drilling in shale at 1,130 feet; Tex Wyoming Oil Co.'s No. 1 Zipperly, trying to swedge 8¼-inch casing at 2,117 feet.

Archer County

Completions—Bohler and others' No. 2 Wilson, 225 bbls. at 1,385 feet; Bridwell and others' No. 2 Wilson, 200 bbls. at 1,600 feet; Burns and others' No. 1 Wilson, dry at 1,800 feet; Dale and others' No. 5 Wilson, 200 bbls. at 1,600 feet; Dee and Belport's No. 3 Mangold, dry at 1,865 feet; Featherstone and others' No. 4 Wilson, 35 bbls. at 1,600 feet; same company's No. 10-C Wilson, dry at 1,625 feet; Gould and others' No. 2 White, dry at 1,675 feet; Gwynn and others' No. 1-B Wilson, 350 bbls. at 1,600 feet; Maer and others' No. 1-B Wilson, 250 bbls. at 1,580 feet; Moore and others' No. 1 Wilson, dry at 1,800 feet; Murchison and others' No. 2-B Wilson, 225 bbls. at 1,595 feet; Pace and others' No. 1 Ford, dry at 1,865 feet; R. M. F. Oil Co.'s No. 1-B Wilson, 560 bbls. at 1,595 feet; 66 Oil Co.'s No. 8-B Wilson, 50 bbls. at 1,595 feet; Texhoma Oil & Refining Co.'s No. 2 Lyles, dry at 1,851 feet; Verschoyle and others' No. 1 Wilson, 20 bbls. at 1,600 feet; Dr. Wallace's No. 12 K. & K., 70 bbls. at 1,755 feet.

Drilling—The Texas Co.'s No. 1 Dormier, drilling in a hard sand at 1,465 feet; No. 2 Parrish, drilling a sandy lime at 1,155 feet; No. 3 Parrish, drilling in shale at 1,110 feet; No. 4 Parrish, drilling in sand at 165 feet; No. 5 Parrish, drilling a lime formation at 1,235 feet; No. 1 Turbeville, trying to seat surface casing at 40 feet; Anderson and others' No. 2 Wilson, drilling in shale at 1,730 feet; Brannon and others' No. 2 Wilson, drilling at 1,320 feet; Camp Oil & Gas Co.'s No. 6 Wilmot, testing an oil sand at 1,600 feet; No. 6 Wilson, drilling at 1,500 feet; Clark and others' No. 1 Miller, drilling at 1,180 feet; Dale and others' No. 6 Wilson, drilling at 155 feet; No. 7-C Wilson, drilling in blue shale at 1,400 feet; No. 8-C Wilson, drilling at 1,325 feet; Empire Gas & Fuel Co.'s No. 2-B Wilson, standardizing on top of an oil sand at 1,594 feet; No. 3-B Wilson, standardizing on top of an oil sand at 1,597 feet; No. 1-C Wilson, flowing 100 bbls. daily from a sand at 1,616 feet; Golding and others' No. 1 Lauster, drilling in brown shale at 550 feet; Graham and others' No. 1 Wilson, drilling in soft rock at 1,615 feet; Gwynn and others' No. 8 Carter, testing an oil sand at 1,585 feet; No. 2-B Wilson, drilling in brown shale at 1,495 feet; Hammond and others' No. 1 Vothberger, drilling in shale at 1,805 feet; Hardeyeste and others' No. 1 Parrish, moving in a rotary machine to test an oil sand at 1,610 feet; Hinley and others' No. 1-D Wilson, drilling an oil sand at 1,612 feet; Humble Oil & Refining Co.'s No. 1 Parrish, drilling in shale at 1,625 feet; Kentucky Oil Corp.'s No. 1-B Wilson, lost a casing seat at 1,584 feet; No. 1-C Wilson, drilling in brown shale at 1,555 feet; Lanning and others No. Parrish, drilling



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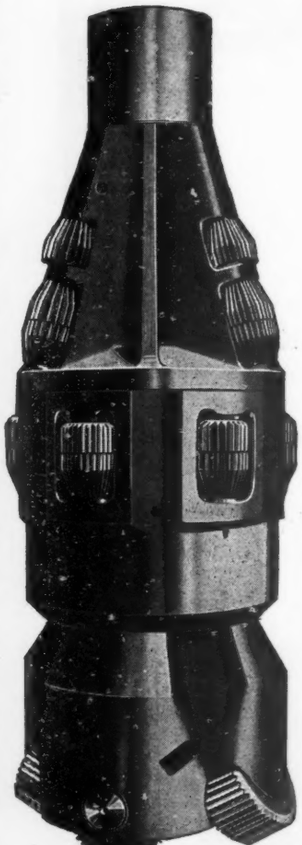

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at 1,240 feet; Lynch and others' No. 1 Birdwell, recementing casing at 1,525 feet; Mid-Kansas Oil & Gas Co.'s No. 1 Matthews, drilling at 1,565 feet; Morris and others' No. 2 Wilson, drilling at 1,635 feet; Murchison and others' No. 2 Wilson, rigging to swab an oil sand at 1,590 feet; No. 4-B Wilson, drilling at 1,675 feet; Norton and others' No. 1 O'Donnell has pipe trouble at 1,275 feet; Orth and others' No. 1 Warren, drilling in shale at 1,605 feet; Pyles and others' No. 1 White, drilling in hard rock at 1,635 feet; Shamrock Oil Corp.'s No. 2-B Richardson, drilling at 1,000 feet; No. 1 Harbison, drilling in shale at 1,365 feet; No. 2 Harbison, drilling in mud at 1,185 feet; Simms Oil Co.'s No. 1 Dowlen, running 6⅝-inch casing at 1,637 feet; Swastika Oil Co.'s No. 1-C Richardson, cementing on top of an oil sand at 1,334 feet; Tackett and others' No. 2 Parrish, bailing and testing an oil sand at 1,595 feet; Texas Wonder Pool Oil Co.'s No. 1 Parrish, has an oil and water sand at 1,599 feet; Texhoma Oil & Refining Co.'s No. 8 Mrs. Carter, drilling at 1,650 feet; No. 4-B Parkey, drilling at 1,510 feet; United Royalties Co.'s No. 1 White, bailed salt water at 1,657 feet; Verschoyle and others' No. 1-B Wilson, showing water from a sand at 1,590 feet; White Oil Corp.'s No. 1 Wilson, pulling 5⅞-inch casing.

Young County

Completions—Bullington and others' No. 1 Campbell, dry at 1,102 feet; Peter and others' No. 11 Boley, dry at 1,250 feet.

Drilling—Associated Oil Syndicate's No. 1 Hughes, drilling at 990 feet; Calmo Oil Co.'s No. 1 Henson, shut down with a hole full of water at 1,081 feet; Empire Gas & Fuel Co.'s No. 1 Williams, spudding at 275 feet; McGuire and others' No. 1 Carter, fishing for casing at 1,875 feet; Mid-Kansas Oil & Gas Co.'s No. 1 Gibson, drilling in lime at 4,085 feet; No. 1 Moren, fishing for casing at 1,865 feet; North American Refining Co.'s No. 1-B Scott, fishing at 3,800 feet; Pomona Valley Oil Co.'s No. 1 Hughes, shut down with a show of gas at 2,880 feet; Richardson and others' No. 1 Wilburn, drilling in shale at 1,435 feet; Seaboard Oil & Gas Co.'s No. 5-A Hughes, drilling at 1,970 feet; No. 6-A Hughes, drilling at 1,735 feet; Sinclair Oil & Gas Co.'s No. 3 Moren, drilling in soft rock at 1,885 feet; Union Oil Co.'s No. 1 Whittenburg, an old well, will clean out and drill deeper at 1,860 feet; Whitehead and others' No. 1 Graham, drilling in lime at 3,300 feet.

Stephens County

Completions—Tibbetts and others' No. 1 Lassiter, dry at 1,192 feet.

Drilling—Ewing and others' No. 1 Martin, drilling at 3,535 feet; Mid-Kansas Oil & Gas Co.'s No. 12 Hill, drilling in brown shale at 1,515 feet; No. 2 Lowe, drilling at 530 feet; No. 3 Richardson, drilling in hard rock at 2,430 feet; No. 2 Williams, drilling at 1,755 feet; Pender Production Co.'s No. 2 Keel, drilling at 1,505 feet; Pierce and others' No. 1 Crudington, has a show of oil and gas and drilling at 900 feet; Prairie Oil & Gas Co.'s No. 15 Atkins, drilling at 2,350 feet; Republic Production Co.'s No. 4 Knox, drilling in white lime at 3,020 feet; Rochelle and others' No. 1-A Sweeney, fishing for casing at 1,400 feet; Snowden and others' No. 14 Higginbotham, drilling in lime at 3,380 feet; Texas Consolidated Oil Co.'s No. 5 Martin, drilling by tools at 4,025 feet; Christy Bros.' No. 3 Humphreys, drilling in brown shale at 425 feet; No. 1 Compton, drilling at 3,240 feet; Empire Gas & Fuel Co.'s No. 6 Wallace, has a hole full of water and drilling at 1,430 feet; Graham and others' No. 1 Saunders, drilling at 3,195 feet; Haile and others' No. 1-B Jones, running 5-inch casing at 3,015 feet; Hughes and others' No. 3 Gandy, drilling in brown shale at 1,650 feet; Magnolia Petroleum Co.'s No. 4 Brown, has a hole full of water and drilling at 3,650 feet; Pender Production Co.'s No. 2 Davis, drilling at 2,400 feet; No. 3 Davis, drilling at 1,400 feet; Quakins Petroleum Co.'s No. 1 Bruce, spraying oil and drilling at 1,920 feet; Rosser and others' No. 5 Jones, drilling with a hole full of water at 2,930 feet; Scott and others' No. 2 Davis, underreaming 6-inch casing at 2,735 feet; Sinclair Oil & Gas Co.'s No. 8 Henderson, drilling at 1,350 feet; Swensondale Oil Co.'s No. 1 Elliott, drilling in shale at 3,060 feet; No. 1 Herrington, sand showing gas at 2,140 feet; No. 19 Swenson, drilling in lime at 3,220 feet; Texas Co.'s No. 6 Heathly, drilling at 870 feet; Texas Fidelity Oil Co.'s No. 5 Gardenshire, drilling at in shale at 905 feet; Williams and others' No. 8 Rosenquest, drilling at 850 feet.

Eastland County

Completions—Corzelius and others' No. 1 Blackwell, dry at 1,165 feet; Rosenfield and others' No. 2 Gilbert, 25 bbls. at 490 feet; Atlantic Oil Producing Co.'s No. 11 Fields, dry at 2,810 feet; Texas Development Co.'s No. 1 Lewis, dry at 3,850 feet.

Drilling—Eby and others' No. 5 Miller, cleaning out to swab at 3,700 feet; Lone Star Gas Co.'s No. 2-A Hogg, drilling at 3,120 feet; Magnolia Petroleum Co.'s No. 15 Westmoreland, drilling at 1,125 feet; Mook Oil Co.'s No. 2 Sibley, drilling in shale at 1,400 feet; Post Duke Oil Co.'s No. 3 Abernathy, drilling in gray lime at 3,035 feet; States Oil Corp.'s No. 4 Platt, drilling at 3,475 feet; Texas Coal & Oil Co.'s No. 2 Prather, fishing for tools at 825 feet; Dougherty and others' No. 1 Johnson, drilling at 2,260 feet; Stovar and others' No. 1 Ray, showing a little oil after a shot in gray lime at 3,280 feet.

Wildcats

Shackelford County: Completions—Humble Oil & Refining Co.'s No. 1-E Poindexter, dry at 3,600 feet.

Drilling—Brown and others' No. 1 Mobely, drilling at 505 feet; Donnelly and others' No. 1 Brooks, cleaning out at 1,250 feet; Humble Oil & Refining Co.'s No. 1-B Lynch, showing oil after a shot at 3,520 feet; Landreth Oil Co.'s No. 11 Poindexter, drilling at 2,040 feet; No. 14 Poindexter, showing 2,000,000 gas and a little oil and drilling at 3,530 feet; Magnolia Petroleum Co.'s No. 3 George, drilling in blue shale at 1,160 feet; Simms Oil Co.'s No. 1 Elliott, drilling at 875 feet; Texhoma Oil & Refining Co.'s No. 2 Black, pulling casing to abandon at 4,025 feet.

Palo Pinto County: Completions—Texas Pacific Coal & Oil Co.'s No. 144 Stuart, 15 bbls. at 1,695 feet.

Drilling—Pender Production Co.'s No. 1 Slemmons, has 1,500 feet of oil in the hole and will test a lime at 4,135 feet; Phillips Petroleum Co.'s No. 1 Cahill, drilling at 3,015 feet; Texas Pacific Coal & Oil Co.'s No. 1 Robinson, drilling in lime at 3,590 feet; Upham Gas Co.'s No. 4 Watson, drilling at 600 feet; Hess and others' No. 1 Croker, drilling in blue shale at 2,585 feet; Moore and others' No. 1 Pruitt, drilling at 2,800 feet; Nelson and others' No. 2 Finch, running tubing at 4,150 feet; Scott and others' No. 1 River Bed, fishing for tools at 4,750 feet; Kelly Oil Co.'s No. 1 Carter, drilling at 450 feet; Simms Oil Co.'s No. 1 Costello, plugging to abandon at 4,150 feet; Upham Gas Co.'s No. 2 Wharton, plugging to abandon at 4,950 feet.

Callahan County: Completions—Aiba and others' No. 1 Short, dry at 410 feet.

Drilling—Dutton and others' No. 2 Cathey, set 6-inch casing at 1,727 feet; Hickey and others' No. 2 Finley, fishing for tools at 2,340 feet; No. 1 Cathey, drilling at 150 feet; Moore and others' No. 4 Ackers, drilling at 1,850 feet; Shackelford and others' No. 1 Allen, drilling at 1,675 feet; Slick and others' No. 1 Barr, drilling at 1,845 feet.

Mitchell County: Completions—Kelsay and others' No. 1 Badgett, 50 bbls. at 3,120 feet.

Drilling—Carey and others' No. 1 Morrison, spudding. Sloan and others' No. 2 Smart, hole full of fluid and drilling past one string of tools at 2,995 feet; California Co.'s No. 1 Morrison, drilling at 4,050 feet; No. 2 Morrison, cementing casing at 1,560 feet; No. 1 Miller, drilling at 2,150 feet.

Clay County: Drilling—Crude Oil Production Co.'s No. 1 Kinder, tested a sand that showed dry at 1,045 feet; will probably drill deeper; Gulf Production

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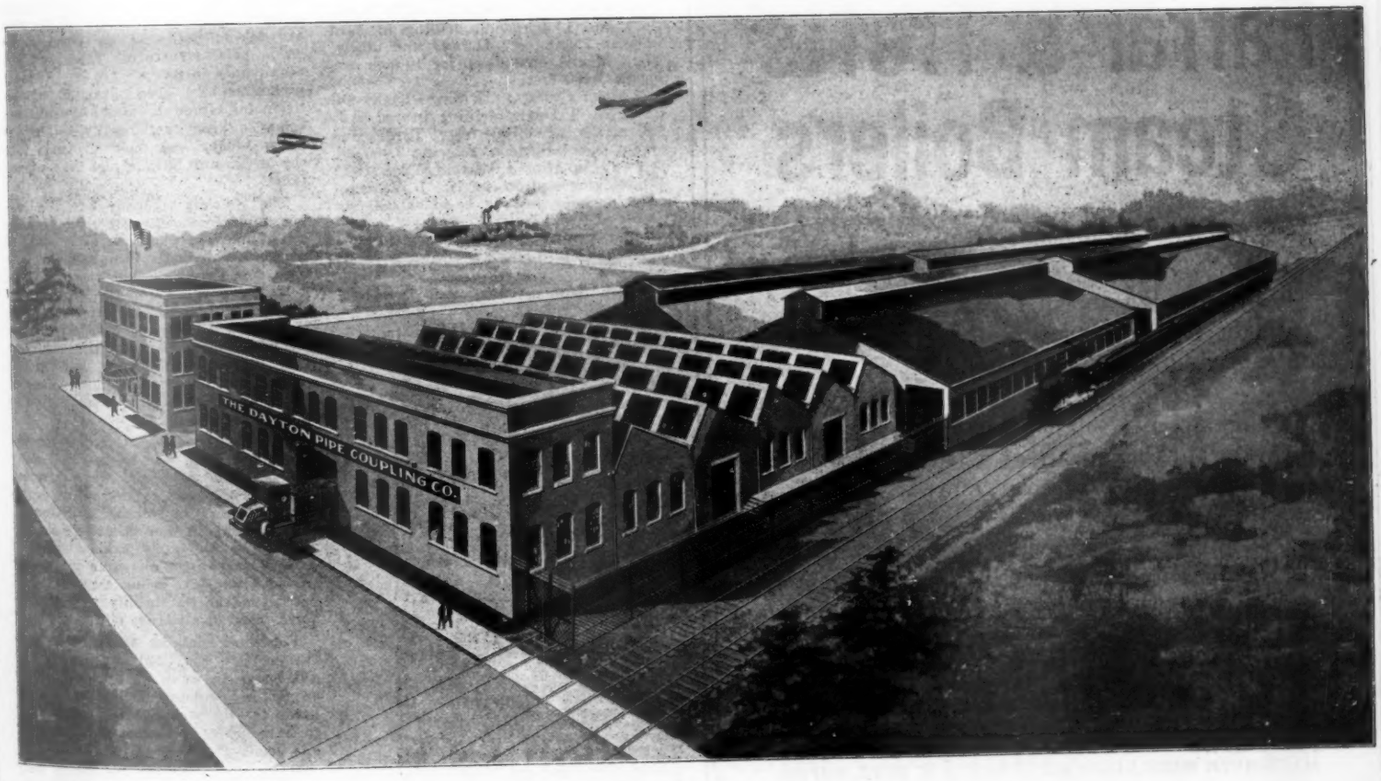

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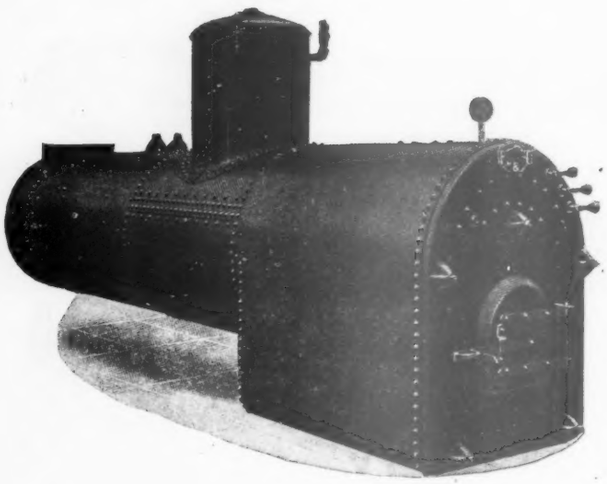

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105

Co.'s No. 3 Worsham, drilling in shale at 1,840 feet; Hamilton and others' No. 1 Parker, drilling with a spudder at 565 feet; Lone Star Gas Co.'s No. 1 Martin, broken sand showing some oil will test at 1,775 feet; No. 2 Withers, drilling at 1,760 feet; Scaling Oil Corp.'s No. 1 Scaling, drilling at 1,300 feet; Seaboard Oil & Gas Co.'s No. 1 Zihlman, drilling at 750 feet; Varner and others' No. 1 Bunnenburg, drilled to a 1,080 feet and shut down.

Montague County: Drilling—Amerada Oil Corp.'s No. 1-A Beasley, drilling in blue shale at 3,175 feet; Gulf Production Co.'s No. 1 Benton, cemented casing at 3,375 feet; Mascho Oil Co.'s No. 1 Howard, fishing for a bit at 2,218 feet; Spencer and others' No. 1 Wilson, drilling in brown shale at 1,120 feet; Texhoma Oil Co.'s No. 1-A Crenshaw, underreaming 6⅝-inch casing at 2,710 feet; The Texas Co.'s No. 1 Rucktashel, second hole, running 8¼-inch casing on top of a sand showing gas at 722 feet.

Carson County: Drilling—The Texas Co.'s No. 3 Burnett, drilling a lime formation at 2,085 feet; No. 1 Mary Burnett, drilling a sand and driving 15½-inch casing at 160 feet; No. 2, moving in tools; Gulf Production Co.'s No. 2-A Burnett, drilling at 3,145 feet; Silk and others' No. 3 Burnett, drilling in lime at 3,470 feet.

Hutchinson County: Drilling—Coline Oil Co.'s No. 1 Saunders, plugging back to test a formation at 3,219 feet; Humphreys Oil Co.'s No. 1 Johnson, fishing for tools at 2,585 feet; Montgomery and others' No. 1 Johnson, drilling at 1,930 feet; McGee and others' No. 1 Smith Capers, cleaning out at 3,175 feet; Producers & Refiners Corp.'s No. 1-B Wilson, drilling in hard lime at 2,200 feet.

Potter County Drilling—Producers & Refiners Corp.'s No. 1-A Bivens, cemented whipstock at 2,934 feet; No. 2-A Bivens, drilling with a showing of 4,000,000 feet of gas at 2,030 feet.

Gray County: Drilling—The Texas Co.'s No. 1 Saunders, drilling in hard lime at 2,390 feet; Holmes and others' No. 1 Morris, shut down for 10-inch casing at 1,400 feet.

Wheeler County: Drilling—Skelly Oil Co.'s No. 1 Davis, drilling in red beds and shells at 3,700 feet; Tyrell and others' No. 1 Sheldon, showing 3,000,000 feet of gas after a shot at 1,648 feet; Whittington and others' No. 1 Williams, resetting pipe test in a 40,000,000-foot gasser at 1,935 feet.

PRODUCTION REPORT

Week Ending February 7, 1924

Burkburnett		
American Refining Co.	200	
Barkley & Meadows	1,565	
Humble Oil & Ref. Co.	605	
Gulf Production Co.	1,530	
Magnolia Petroleum Co.	3,490	
Middle States Oil Co.	190	
McMahon Oil Co.	485	
Panhandle Refining Co.	430	
Sinclair Oil & Gas Co.	35	
The Texas Co.	690	
Texhoma Oil & Ref. Co.	560	
Miscellaneous	11,770	
Total		21,550
Electra		
Empire Gas & Fuel Co.	1,310	
Humble Oil & Ref. Co.	130	
Griswold Oil Co.	400	
Gulf Production Co.	910	
Magnolia Petroleum Co.	4,775	
Middle States Oil Co.	150	
McMahon Oil Co.	205	
The Texas Co.	4,735	
Texhoma Oil & Ref. Co.	2,165	
Miscellaneous	5,220	
Total		19,990
Iowa Park, Etc.		
American Refining Co.	35	
Griswold Oil Co.	30	
Gulf Production Co.	45	
Middle States Oil Co.	5	
Texhoma Oil & Ref. Co.	180	
Miscellaneous	2,100	
Archer County—		
American Refining Co.	220	
Griswold Oil Co.	635	
Gulf Production Co.	270	
Humble Oil & Ref. Co.	65	
The Texaxs Co.	1,050	
Texhoma Oil & Ref. Co.	2,340	
Miscellaneous	16,300	
Petrolia—		
Gulf Production Co.	70	
Magnolia Petroleum Co.	60	
The Texas Co.	95	
Miscellaneous	125	
Total		23,625
Stephens County		
Empire Gas & Fuel Co.	125	
Gulf Production Co.	1,650	
Humble Oil & Ref. Co.	1,840	
Magnolia Petroleum Co.	845	
Mid-Kansas Oil & Gas Co.	1,960	
Prairie Oil & Gas Co.	1,110	
Sinclair Oil Co.	110	
The Sun Co.	695	
The Texas Co.	2,530	
T. & P. Coal & Oil Co.	1,600	
Miscellaneous	8,100	
Total		20,460
Eastland County		
Humble Oil & Ref. Co.	120	
Magnolia Petroleum Co.	545	
Panhandle Refining Co.	610	
Prairie Oil & Gas Co.	880	
Sinclair Oil Co.	460	
The Texas Co.	325	
T. & P. Coal & Oil Co.	300	
Miscellaneous	2,930	
Total		6,700
Other Fields		
Strawn—		
T. & P. Coal & Oil Co.	335	
Miscellaneous	510	
Moran—		
Empire Gas & Fuel Co.	170	
Humble Oil & Ref. Co.	520	
The Texas Co.	305	
Texhoma Oil & Ref. Co.	220	
Miscellaneous	2,670	
Coleman County—		
Miscellaneous	140	
Brown County—		
Miscellaneous	350	
Comanche-Eastland—		
Gulf Production Co.	630	
Humble Oil & Ref. Co.	365	
Magnolia Petroleum Co.	1,100	
Prairie Oil & Gas Co.	260	
Sinclair Oil & Gas Co.	75	
The Texas Co.	295	
T. & P. Coal & Oil Co.	300	
Miscellaneous	5,060	
Young County—		
Gulf Production Co.	110	
North American Refining Co.	110	
Sinclair Oil & Gas Co.	615	
Oklahoma Petroleum & Gas Co.	85	
Panhandle Refining Co.	370	
The Texas Co.	120	
Miscellaneous	3,380	
Mitchell County	780	
Reagan County	110	
Jack County	25	
Total		18,700
Total all fields		111,080
Total last week		110,425
Gain		655

PRICES ARE UNCHANGED IN HOUSTON MARKET

HOUSTON, Tex., Feb. 11.—While refiners in the coastal area are enjoying exceptional business in finished oils, they are taking notice of the trend of the crude price structure. There has been no advance in prices since last week but premiums have been advanced. Competition for Grade A coastal crude has become so keen that royalty owners are being sought and their oil taken from the producers having pipe line connections.

The Sinclair company has just completed arrangements for taking royalty oil from West Columbia at a bonus of 25 cents a barrel. Competition is keen for Goose Creek oil, which can be transported to refineries on the Houston ship channel by barges. Indications are that 25 cents will be the common premium on all new contracts. For the past year very little coastal crude has brought more than 15 cents premium. Many of the independent refiners have had oil at a 10-cent premium.

Prices on finished oils are strong and unchanged from last week. The winter has been the best cold weather season that coastal refiners ever have experienced, so far as volume is concerned. Along with the movement of oils, opportunities for profit making have been exceptional, as the oils were run on low priced crude oils, while the finished oil market advanced steadily with the upward trend of all crude oils.

For the remainder of February, indications are that lighter viscosity oils will move in small quantities. Jobbers are buying in lots sufficient to meet the needs for the season, being cautious not to have stocks left when time for heavy oils comes.

Right now inquiries are coming daily to coastal refiners on heavy oil quotations for summer. Most of the inquiries are for contracts. If jobbers are anxious to get connections for summer oils, refiners are equally as concerned about the terms of contracts. Most contracts are sought on the basis of a graduated scale, the price of finished oils to fluctuate with the trend of the crude oil market. One cent of change on finished oils for each 25-cent move of the crude structure is the common basis.

The Fastest Driller

To drive your bit to pay sand faster than the other fellow, use a Columbian Drilling Cable on your rig.

The extreme springiness so desirable in Cable is to be had in Columbian. This makes the bit strike a harder blow, and without using an ounce more of your engine's power. And it is also true that Columbian enjoys the well-earned reputation of being the most durable as well as the most speedy Cable built.

Our especially selected Pure Manila Fibre gives Columbian Cable its long-wearing qualities, and the skill back of the perfectly designed Cable-laying machines in the Columbian Mills, makes possible the extreme resiliency which gives this Cable its better drilling speed.

The many old-timers who have tried every line, then gone back to using Columbian, have a good reason. Ask them.

By Invitation Member
Emblem of BUSINESS CHARACTER
Hier Leaders of the World Association

Sold at all National Supply Company Stores

"Drill with Manila"

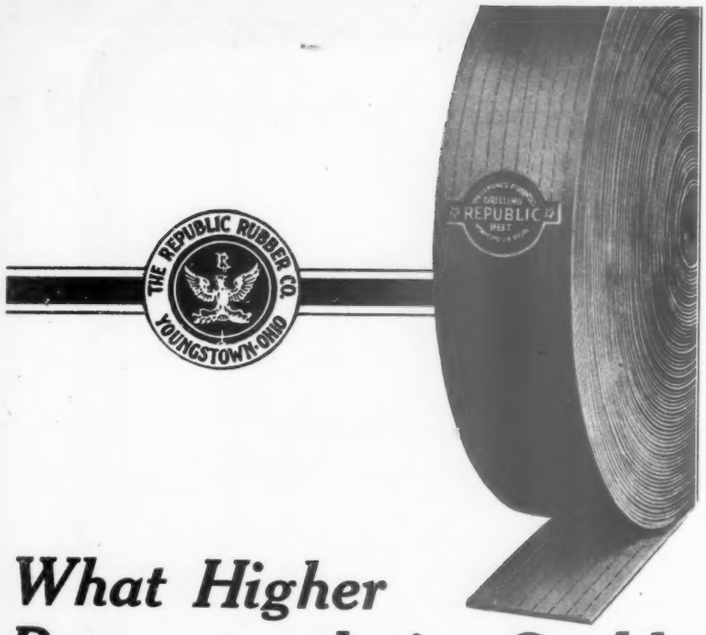
Columbian Rope Company

342-70 Genesee Street

Auburn, *"The Cordage City"* N. Y.

Branches: New York Chicago Boston New Orleans

MADE BY COLUMBIAN ROPE CO. AUBURN, N.Y.



What Higher Recommendation Could a Belt Have?

Mr. T. F. Daley, drilling contractor, says of a certain Republic Belting—"It has been my experience that it will outwear any two belts of other makes, it gives the utmost satisfaction and I can highly recommend it to the men in the field, as a belt of lasting qualities and good service."

Republic Belts have made good in the oil fields where the work they have been put to has subjected them to the supreme test. This producer, quoted above, has been using Republic Belts for six years with constant satisfaction. Quality kept up to a uniformly high standard is responsible for their success in this six-year test.

Republic Belts have built up a reputation of unquestioned reliability. They are the acknowledged leaders in the oil fields of the world.

THE REPUBLIC RUBBER COMPANY
Youngstown, Ohio

REPUBLIC BELTING

MEXICAN SHIPMENTS IN DECEMBER SHOW RECORD

(Continued from Page 64)

4	Ss.	Swiftsure, Fall River	75,877
6	Ss.	Gulftrade, New Orls.	70,115
9	Ss.	Derbyline, Fall River	67,187
10	Ss.	J. M. Cudahy, Texas City	68,622
12	Ss.	E. W. Sinclair, Cuba	44,810
12	Ss.	S. L. Fuller, Cuba	66,825
14	Ss.	Madrono, Houston	55,422
15	Ss.	Gene Crawley, Bocas del Toro, C. A.	31,766
15	Ss.	Mirita, Cuba	56,374
16	Ss.	Freeport Sulphur 6, Freeport	24,332
17	Ss.	Freeport Sulphur 1, Freeport	17,667
17	Ss.	Trinidadian, Tampa	23,102
18	Ss.	J. M. Cudahy, New Orls.	70,028
18	Ss.	W. L. Connelly, Cuba	31,562
20	Ss.	Gulf Star, Galveston	70,252
20	Ss.	A. E. Watts, New Orls.	68,501
21	Ss.	Freeport Sulphur 6, Freeport	40,380
22	Ss.	Harry Farnum, Cuba	31,442
24	Ss.	Madrono, New Orls.	55,422
24	Ss.	S. L. Fuller, Cuba	66,547
26	Ss.	Mirita, Pt. Arthur	54,172
27	Ss.	Swiftsure, Fall River	76,132
28	Ss.	E. W. Sinclair, Houston	45,259
30	Ss.	A. E. Watts, Cuba	69,968
31	Ss.	Derbyline, New York	66,830
31	Ss.	W. L. Connely, Pt. Limono, C. A.	32,768
		Bunker deliveries	9,673
		Total	1,791,983

By Transcontinental Petroleum Co.

Dec. Rig		Vessel and Destination—	Bbls.
1	Ss.	Baytown, Baytown	22.148
1	Ss.	Mary Luckenbach, Key West	50,270
1	Ss.	Olna, Baton Rouge	17,867
1	Ss.	Baton Rouge, Baton Rouge	47,351
2	Ss.	S. V. Harkness, Charleston	61,940
2	Ss.	L. J. Drake, Baytown	55,513
2	Ss.	Eurana, Baton Rouge	62,551
4	Ss.	Vistula, New York	74,837
4	Ss.	Wellington, New Orls.	27,407
4	Ss.	Josiah Macy, Baltimore	59,995
4	Ss.	Casimir, Baltimore	43,795
5	Ss.	Clement Smith, Phila.	66,766
8	Ss.	Princeton, Baton Rouge	49,863
8	Ss.	Gedania, Baltimore	75,117
8	Ss.	Baytown, Baytown	22,876
9	Ss.	Caloria, New Orls.	41,697
9	Ss.	Freeport Sulphur 6, Freeport	27,230
12	Ss.	Republic, Jacksonville	42,326
14	Ss.	Eurana, Baton Rouge	61,858
15	Ss.	Cedarhurst, Deepwater Pt.	45,476
15	Ss.	Agwiworld, Fall River	64,799
15	Ss.	Niobe, Baton Rouge	66,541
16	Ss.	Baltic, Baton Rouge	84,796
16	Ss.	W. H. Tilford, Baton Rge.	56,544
16	Ss.	Baytown, Baytown	22,767
16	Ss.	Vaarli, Baltimore	55,154
19	Ss.	Baton Rouge, Key West	46,858
21	Ss.	Swiftarrow, Texas City	70,667
21	Ss.	Princeton, Tampa	46,180
21	Ss.	Camden, Baytown	59,604
22	Ss.	Corning, Cuban Ports	35,884
24	Ss.	Josiah Macy, Baton Rouge	59,577
25	Ss.	Baytown, Baytown	22,997
26	Ss.	Niobe, Baton Rouge	67,716
26	Ss.	Eurana, Baltimore	63,034
26	Ss.	Casimir, Key West	41,918
27	Ss.	W. H. Tilford, New York	24,632
27	Ss.	Republic, Jacksonville	42,995
28	Ss.	Fletcher Farrel Texas City	66,400
28	Ss.	J. M. Cudahy, Brunswick, Ga.	65,571
28	Ss.	Vistula, Baltimore	74,607
28	Ss.	Baltic, Baton Rouge	83,589
28	Ss.	Gedania, Baton Rouge	84,501
29	Ss.	Montana, Paulsboro	63,077
30	Ss.	Calgarolite, New York	61,607
30	Ss.	S. V. Harkness, Ponce y Guanica	21,600
30	Ss.	S. V. Harkness, Ponce y Guanica	*31,532
		Coastwise delivery (a/c Eagle Co.)	30,474
		Bunker deliveries	73,230
		Total	2,525,734

By Mexican Eagle Oil Co., Ltd.

Dec. Rig		Vessel and Destination—	Bbls.
3	Ss.	San Valeriano, Lizard Point f/o	*51,932
6	Ss.	Miriam, England	**45,066
7	Ss.	San Nazario, Buenos Aires	*66,935
8	Ss.	San Rosendo, Philadelphia	*49,614
10	Ss.	San Fabian, Devenport	*89,690
10	Ss.	Conia, Gibraltar f/o	*51,323
12	Ss.	Sheaf Spear, Santos Etc.	*26,374
12	Ss.	San Lamberto, Vado, Italy	*53,348
17	Ss.	San Melito, Montivideo, etc.	*67,036
19	Ss.	San Zotico, Habana	*50,631
21	Ss.	Eastwood, South America	**14,493
22	Ss.	Peruviana, Buenos Aires	*40,130
22	Ss.	San Teodoro, Buenos Aires	**27,896
24	Ss.	Oleander, Lizard Point f/o	*62,109
25	Ss.	San Eduardo, Philadelphia	*54,171
26	Ss.	War Sudar, Lisban, Portugal	*49,854
28	Ss.	San Roberto, New York	*51,788
28	Ss.	San Florentino, Lizard Point f/o	*110,514
28	Ss.	Novington, La Plata	**13,740
30	Ss.	Rapollo, Vado Ligure, It.	*49,197
31	Ss.	San Fernando, Buenos A.	*105,360
		Coastwise deliveries	*66,284
		Bunker deliveries	142,201
		Total	1,339,686

By Cia Mexicana Holandesa La Corona, S. A.

Dec. Rig		Vessel and Destination—	Bbls.
1	Ss.	Vaba, U. S. A.	46,046
1	Ss.	War Sirdar, U. S. A.	*47,970
2	Ss.	Tromphon, U. S. A.	*32,017
2	Ss.	Malmager, Europe	59,020
3	Ss.	Miriam, Europe	**28,720
4	Ss.	Emile Deutsch, U. S. A.	50,429
11	Ss.	Scot Borderer, U. S. A.	59,932
12	Ss.	Cliona, U. S. A.	*50,895
12	Ss.	Trophon, Europe	*32,952
16	Ss.	Henry Deutsch, U. S. A.	50,780
21	Ss.	Scot Borderer, U. S. A.	60,582
21	Ss.	Vaba, U. S. A.	44,761
23	Ss.	Ed L. Doheny, U. S. A.	60,935
23	Ss.	Scot Standard, Europe	56,592
24	Ss.	Davanger, U. S. A.	63,956
25	Ss.	Marinula, U. S. A.	62,133
25	Ss.	Dosina, U. S. A.	47,661
28	Ss.	Henry Deutsch, U. S. A.	43,112
30	Ss.	Absia, Europe	*60,561
31	San	Zotico, Honduras	*49,584
31	Ss.	Litiopa, Europe	43,096
		Bunker deliveries	108,471
		Total	1,134,869

By East Coast Oil Co.

Dec. Rig		Vessel and Destination—	Bbls.
2	Ss.	Topila, Galveston	47,335
3	Ss.	Torres, Galveston	48,960
8	Ss.	Sulphur 1, Freeport	18,770
11	Ss.	Topila, New Orleans	47,620
11	Ss.	Tamiahua, Galveston	47,221
11	Brg.	Sulphur 3, Freeport	14,695
11	Brg.	Sulphur 4, Freeport	14,750
15	Ss.	Torres, Galveston	49,674
19	Ss.	Tamiahua, Galveston	47,943
21	Ss.	Torres, Galveston	48,693
26	Ss.	Topila, Galveston	48,660
28	Ss.	Sulphur 1, Freeport	18,701
29	Ss.	Torres, Galveston	48,875
30	Ss.	Sulphur 6, Freeport	48,005
		Bunker deliveries	5,300
		Total	620,811

By Mexican Gulf Oil Co.

Dec. Rig		Vessel and Destination—	Bbls.
1	Ss.	Currier, Port Arthur	43,165
2	Ss.	Ligonier, Savannah	39,972
3	Brg.	Conemaugh, Galveston	16,317
3	Brg.	Monongahela, Galveston	16,388
6	Ss.	Winifred, Port Tampa	18,464
12	Brg.	Juniata, Galveston	13,240
12	Brg.	Conneaut, Galveston	17,180
15	Ss.	Cabrille, Port Arthur	45,364
18	Ss.	Agwimoon, Port Arthur	73,496
18	Ss.	Winifred, Houston	19,200
20	Ss.	Gulf State, Port Arthur	64,882
26	Ss.	Winifred, Houston	19,182
27	Ss.	Gulfstate, Port Arthur	68,812
28	Ss.	Gulfstar, Port Arthur	71,837
29	Ss.	Currier, Port Arthur	45,395
30	Ss.	Gulfoil, Port Arthur	48,478
30	Brg.	Shenango, Port Arthur	22,570
30	Brg.	Juniata, Galveston	12,729
30	Brg.	Conneaut, Galveston	16,956
30	Ss.	Ligonier, Port Arthur	39,600
30	Ss.	Trinidadian, Port Arthur	24,225
		Bunker deliveries	30,294
		Total	739,303

By The Texas Co.

Dec. Rig		Vessel and Destination—	Bbls.
7	Ss.	Texas, Port Neches	59,539
8	Ss.	Occidental, Providence	*56,191
16	Ss.	Texas, Delaware	62,326
22	Ss.	Dungannon, Port Neches	58,061
22	Ss.	Dungannon, Port Neches	**9,332
25	Ss.	Pennsylvania, Bayonne	*57,332
30	Ss.	Reaper, Port Neches	53,984
30	Ss.	Reaper, Port Neches	**8,846
31	Ss.	Occidental, Providence	57,789
		Bunkers deliveries	18,732
		Total	437,096

By Empire Gas & Fuel Co.

Dec. Rig		Vessel and Destination—	Bbls.
1	Ss.	Catahoula, New York	46,031
3	Ss.	Dora, Philadelphia	50,332
10	Ss.	Dannedaike, New Orleans	34,429
19	Ss.	Dannedaike, New Orleans	30,137
21	Ss.	Dora, Philadelphia	50,000
30	Ss.	Ckement Smith, Philadelphia	69,429
31	Ss.	Dannedike, Galveston	33,237
		Total	334,367

By New England Oil Co.

Dec. Rig		Vessel and Destination—	Bbls.
1	Ss.	Swift Scout, Fall River	68,291
11	Ss.	Swift Light, Fall River	71,415
16	Ss.	Chuky, Tocopilla	62,979
26	Ss.	Swift Scout, Fall River	66,635
		Bunkers deliveries	30,219
		Total	299,539

By Chadick & Co.

Dec. Rig		Vessel and Destination—	Bbls.
4	Ss.	Castana, Fall River	43,653
9	Ss.	Agwimoon, Port Arthur	70,337
		Total	13,990

By Interocean Oil Co.

Dec. Rig		Vessel and Destination—	Bbls.
7	Ss.	Aztec, Baltimore	60,650

By Panuco Boston Oil Co.

Dec. Rig		Vessel and Destination—	Bbls.
20	Ss.	E. V. R. Thayer, Philadelphia	63,077

By Unity Oil Corp.

Dec. Rig		Vessel and Destination—	Bbls.
10	Ss.	Wm. Isom, Baltimore	37,810

FROM PORT LOBOS

By International Petroleum Co.

Dec. Rig		Vessel and Destination—	Bbls.
11	Ss.	Albert E. Wattas, New Orleans	98,566
18	Ss.	Agwimars, Fall River	71,907
19	Ss.	Beacon Oil, Boston	69,541
20	Ss.	Beaconlight, Boston	67,665
		Coastwise deliveries	104,338
		Total	338,017

By Transcontinental Petroleum Co.

Dec. Rig		Vessel and Destination—	Bbls.
1	Ss.	Abertolite, Antofogasta	44,222
2	Ss.	Masconomo, New York	42,262
6	Ss.	Vistula, New York	13,000
10	Ss.	Gedania, Baltimore	15,565
27	Ss.	Masconomo, Baltimore	44,466
30	Ss.	Vistula, Baltimore	13,000
		Total	220,307

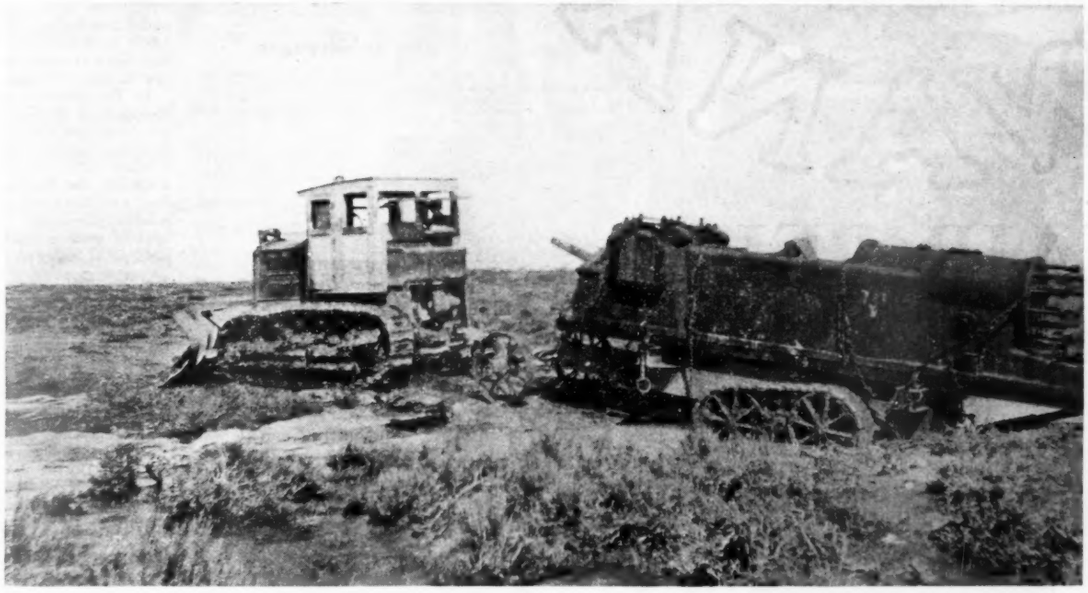
By The Texas Co.

Dec. Rig		Vessel and Destination—	Bbls.
4	Ss.	Louisiana, Galveston	*28,757
15	Ss.	Louisiana, Savannah	*25,070
		Bunkers deliveries	3,340
		Total	56,666

FROM TUXPAM

By Mexican Eagle Oil Co., Ltd.

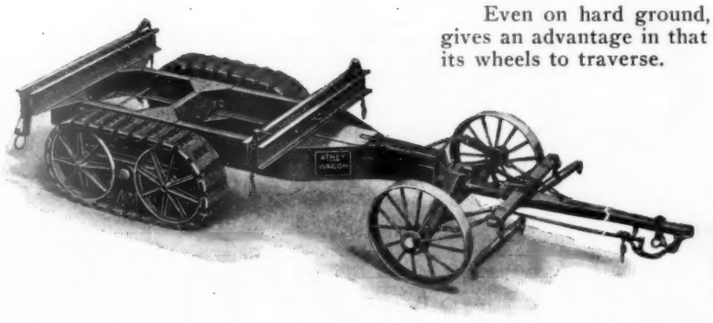
Dec. Rig		Vessel and Destination—	Bbls.
10	Ss.	San Nazario, Montevideo	*37,140



A 10-Ton Load—Wyoming

Through mud or sand where an ordinary wagon stalls with a 3 to 5-ton load, the ATHEY moves easily with the same power and a capacity 10-ton load.

Even on hard ground, if the surface is rough—the ATHEY gives an advantage in that it lays at all times a smooth track for its wheels to traverse.



Its patented collapsible-truss construction gives a band absolutely rigid and level, when in contact with the ground. You do not have the uneven, crumpled surface for the wheels to traverse which is often afforded by bands supported by small rollers. Nor do you have the great friction. The ATHEY wheel moves along with surprising ease.

For oil field hauling this wagon is rapidly gaining preferment. Rated capacity 10 tons. Shipments direct from Chicago. Information and prices on request.

ATHEY TRUSS WHEEL CO.
130 N. Wells St.
Chicago, U. S. A.
Cable Address—"Trusswheel Chicago"

ATHEY TRUSS WHEEL WAGON

IT BRIDGES THE SOFT SPOTS

In a class by itself

"IWANA"

HAIR BELT

For drilling or pumping "IWANA" is in a class by itself. It is the best belt money can buy. Made by men who know the belting problems in every oil field in the world. Consult our belting engineers—let them prove to your satisfaction that "IWANA" belts can solve your belting problems, no matter how difficult.

FOR PUMPING

Light Double—¼-in. thick.
Or
Heavy Double—⅜-in. thick, depending whether light or heavy duty.

"Make a Test and Know the Best"

FOR DRILLING

Always Use ⅜-inch Heavy Double.

If you want to save worry and money use "IWANA" Hair Belting

"IWANA" HAIR BELTING will easily OUTLAST any other belt on the market. We manufacture "IWANA" from the BEST raw material on the market and give every belt personal inspection before we send it out—we know they are perfect before leaving our plant. If you want to save WORRY and MONEY use "IWANA" Hair Belting.

TULSA REPRESENTATIVE
A. F. CAMPBELL, P. O. Box 171

FENWICK-REDDAWAY MFG. CO.

CAMEL'S HAIR, COTTON AND LINEN PRODUCTS

Office and Factory: NEWARK, N. J.

12	Ss.	San Fabian, Devonport ..	*18,837
19	Ss.	San Melito, Buenos Aires..	31,524
		Bunker deliveries	17,184
		Total	94,688

DECEMBER SUMMARY

From—	
Tampio	11,928,719
Port Lobos	666,064
Tuxpam	94,688
Total, December, 1923	12,689,471
Total, December, 1922	12,214,108
Increase, December, 1923	475,363

DIVISION OF MOVEMENT

To—	
United States	9,063,631
South America	774,278
United Kingdom	694,886
Cuba	633,650
Continent	432,472
Mexican Coastwise	200,866
Central America	145,606
Panama	66,126
Bunkers (to balance)	678,556
Total	12,689,471

(*Denotes topped crudes. **Denotes distillates.)

STORY OF OWENSBORO, KENTUCKY, FIELD

(Continued from Page 64)

and increased the possibilities of a nice productive pool.

During the summer of last year there was a considerable amount of drilling in the outlying territory. The majority of the wells were productive, but it was not until the latter part of the year the best wells were brought in. Since that time there has been very rapid progress toward development even in the face of a very uncertain market.

C. A. Leeper Enters Field

C. A. Leeper, of Chicago, who has spent the greater part of his life in the oil business, was attracted here from Wayne County, Kentucky, where he had been operating. Having spent years in the famous Pennsylvania fields, and operated in southeastern Ohio, he saw the possibilities in the small producing wells. He spent some time acquiring acreage and purchased the northern tract of the Amanda Stewart farm of 55 acres of H. F. Gibson and turned it into the Leeper Oil Co. After drilling six wells it developed into the most productive piece of property in the field, and now has an average daily of 100 bbls.

Among the first oil men to put in their appearance here was I. N. Harkless, of Pittsburgh, long an operator in the Pennsylvania fields, and who had previously acquired a considerable amount of acreage in Hancock and Ohio Counties. To Mr. Harkless belongs the distinction of being one of the venturesome oil men who moved forward from the defined area in the Pellville section and opened what is known as the "Hurricane Pool." The initial well in this territory was drilled in the first part of August and was the signad for a general movement in the southeastern direction from Pellville over into Ohio County.

Eighty-two Wells Sunk

As an evidence of the progress that has been made toward development in Daviess, Ohio and Hancock counties since the discovery wells, the majority of which has been accomplished in the past 18 months, 82 wells have gone down to completion. According to the tabulation by leases 50 are producing, according to estimates, over 200 bbls. of crude oil a day, while the remaining 33, the majority of which had showings of oil, were classified as dry holes or abandoned. Eleven of the latter have been what are called "wildcat" wells, or wells far removed from the proven areas, represent efforts of operators to extend the pools or to open up new territory in which no drilling had ever been conducted. Of this number several have been drilled in Daviess County.

Drilling in McLean

Territory northeast of Owensboro has so far commanded the center of attraction. Notwithstanding this there has been going on in McLean County a drilling campaign well worthy of note. The Petroleum Extraction Co., of New London, Conn., has pursued with vigor an effort to locate a pool in that county. During the past year many thousands of dollars have been spent to locate a pool which is believed to exist somewhere around Beech Grove. Several years ago oil was found within the town limits of this little city at a very shallow depth. The belief prevails that at a greater depth, somewhere in that vicinity, oil will be encountered. Since the summer of 1922 this company has drilled three wells, one each on the Hayden, Hanna and Cline farms at depths ranging from 1,000 to 1,500 feet, and is planning to drill several other wells on a large acreage in that vicinity.

In the territory southeast of Pellville no less than 10 rigs are now working and the operators are busily engaged getting materials on the leases before the roads leading into the oil field break down. Rigs dot the horizon here and there by day, and the glare of electric lights and torches illuminate the night. When a well is once started work never ceases until it is completed, unless an accident forces a suspension of drilling. During the summer season little difficulty is experienced in getting over the dirt roads, but when fall rains begin, the trouble of the oil man starts. It is not an uncommon sight during the winter to see one or more wagons mired to the axles, and the moving of drilling rigs frequently necessitates the employing of a dozen or more teams with block lines.

Modern Equipment

Practically all the leases in the Pellville section are of modern equipment, demonstrating the thoroughness with which the operators are doing their work, in contemplation of long life wells. Many are operated from central powers by special type oil country gas engines, built especially for heavy duty. Long lines of steel surface rods extend from the central power, one line to each well. Where the production demands these power plants are kept in operation day and night. Arrangements are made to hook off the wells pumped down or exhausted without interfering with those that continue to produce and no time is lost in securing production.

Operators Interested

Among the operators interested in the four counties, and the companies drilling here are: the Hancock Oil & Gas Co., H. F. Gibson, Lawrenceville, Ill.; C. A. Leeper, Leeper Oil Co.; Charles Rosener, Indianapolis; Dearborn Oil Co., Chicago; Kentucky Oil Co., St. Louis; Oak Oil Co.; Newton Oil Co., C. E. Daugherty & Co., I. N. Harkless, Indiana-Pennsylvania Oil Co.; Boop & Donough, Oklahoma; Bert Thompson, E. M. Trent & Co., Damron Bros., Joe S. Young, Lawrenceville, Ill.; Fred Hillis, Lexington; L. T. House, Champaign, Ill.; Big Bend Oil Co., Fred Hartman, Indianapolis; Charles Parriott, Lawrenceville; Dan McQuiggin, Robinson, Ill.; The Pellville Oil Co., a corporation of local capital; Randolph & Stevenson, of Bowling Green; J. C. Miller, of St. Louis; the Petroleum Extraction Co., New London, Conn.; W. W. Jamieson, West Virginia, and the Wood Oil Co., of Bradford, Pa.

The history of all oil fields usually reveals a wonder lease, or one within the defined area that shows to the greatest advantage in production. In this field it is the farm of Mrs. Amanda Stewart, part of which lies in the northwest section of Ohio County, and the remainder in the southwest corner of Hancock. The Ohio-Hancock line divides the farm, 175 acres south of the line in Ohio, and 55 acres north in Hancock County. The northern part was originally leased to Marvin Jordan, of this city, who made a trade with H. F. Gibson. Mr. Gibson drilled one well and in a few months disposed of his interests to C. A. Leeper, the present owner. The southern tract was the original property of the Oak Oil Co., and passed into the hands of the Kentucky Oil Co.

One frequently reads of the owners of oil becoming immensely wealthy over night through the discovery of oil. There may be no fabulous stories of riches from the old fields of this section, but from the indications there are very substantial incomes to be derived by the land owners upon whose farms oil has

NEW

Combination Geared Power in Two Additional Sizes

With the new 15 H. P. and 20 H. P. geared power combinations, our line is greatly strengthened.

The eccentric and disc feature enables you to balance wells without swings. Equivalent to double eccentric.

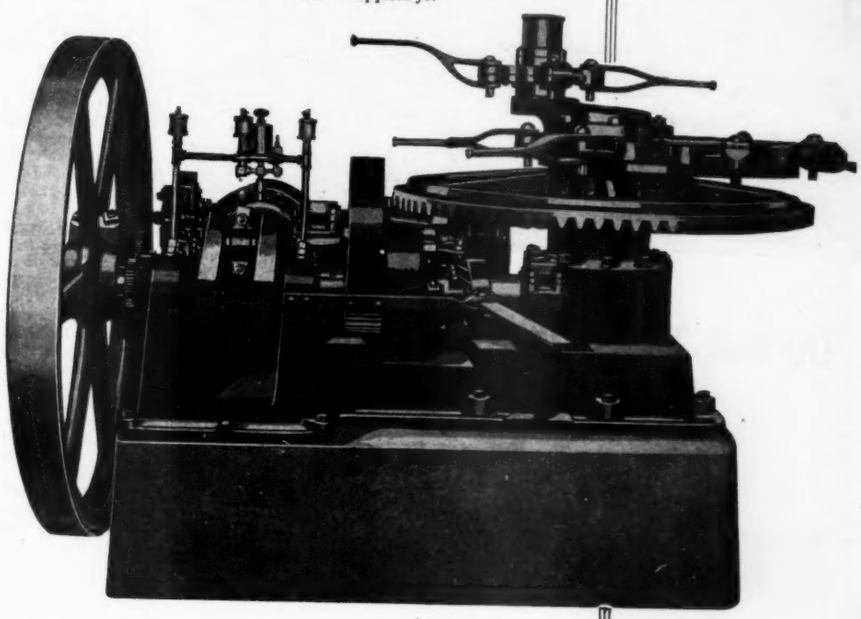
Suitable for wells up to 1500 feet deep.

Now made in four sizes, each a complete, self-contained unit, with Four-Cycle Gas Engine. Can be set on wood or concrete foundation.

The Pattin Brothers Co.
Marietta, Ohio

Branch Office and Warehouse:
Tulsa, Okla.—Wichita Falls, Texas
Carried in stock by Frick & Lindsay Co. in Kentucky

Patent Applied for



DIRECT POWER

GAS MEASUREMENT

"Ironcase" and Tin Meters
Metric Orifice Meters

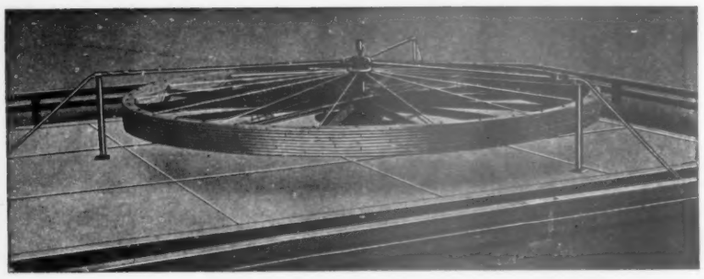
Westcott Differential Gauges
Westcott Proportional Meters

For Accurate — Constant — Economical Work

Measure With Metric

WESTCOTT & GREIS
TULSA DALLAS CASPER
Gas Measurement and Control

METRIC METAL WORKS
of AMERICAN METER COMPANY, Inc.
ERIE, PA.



Durnell Talks On Standardization of Pumping Powers

Being the Twelfth of a Series

H. G. Durnell

The Union Machine Company of Bartlesville, Oklahoma, occupies an unique position before the Petroleum Industry in that its principal product, the Durnell Underpull Pumping Power has a wide distribution.

The Power is in use wherever oil wells are pumped.

The first powers that were built are working every day.

No. 1 Power is in use today on a lease a few miles from the factory performing capably, efficiently and economically.

Testimonials like these give to the Durnell Underpull Pumping Power a distinction that is above approach. They are also symbolical of a finished product embodying the full essence of Standardization.

International Supply Company, Agents

STOCKED AT

OKLAHOMA		KANSAS	WYOMING
Okemah	Jennings	El Dorado	Casper
Okmulgee	Shidler	Madison	
Bristow	Tonkawa	Virgil	
Bryant	Bartlesville		
Wewoka	Pawhuska		MONTANA
Drumright			Sunburst

MANUFACTURED BY
UNION MACHINE COMPANY
BARTLESVILLE, OKLA.

been discovered. The one-eighth royalty upon all oil produced is going to provide many comforts for these property owners, of which they have heretofore been denied.

Amanda Stewart Leases

An instance is found in the case of Mrs. Amanda Stewart. In a modest country home nestling behind a little woodland, Mrs. Stewart is spending her declining years enjoying all the comforts her fortune can furnish. Three years ago little was known of her farm other than it furnished her with a meager income through the cultivation of a portion of the land. Today it is looked upon as perhaps the most valuable piece of real estate in either Hancock or Ohio counties. Through her late father, W. C. Haynes, Mrs. Stewart acquired 230 acres of land on the Ohio-Hancock lines. This was many years ago when land in this section was very cheap and little value was attached to it other than that furnished by the timber. The soil was very thin and the farm crops light. With her husband, the late William Stewart, a former resident of Daviess County, they worked with an indomitable will to earn a livelihood and rear a family of five children. Fifteen years ago Mr. Stewart died, leaving the widow the task of managing the farm. Four of the five children have since married, and with her only remaining child, a son, Frank Stewart, Mrs. Stewart resides at the home place.

With the discovery of oil in the Pellville section, the Stewart farm was among the first developed, and since the first well a total of 16 have been completed, only one being non-productive. Of the total drilled, six on the 55-acre tract of the Leeper Oil Co., are the best producers, having a daily production of about 100 bbls., while on the large tract of 175 acres, owned by the Kentucky Oil Co., there are nine producers making a daily average of 35 bbls. A year ago when crude oil was selling at $2.61 a barrel, Mrs. Stewart's income ranged around $700 a month, but since that time the price has declined to $1.21 a barrel. However, the increase in production on the lease, even in the face of the decline in price, ahs kept the income to a very substantial figure. Producing oil on this lease has not in any way interfered with the regular agricultural pursuits, since the 15 wells, with the exception of one, have been drilled on portions of the farm that have not been in cultivation for years.

May Be Oil Center

Aside from the production end of the business there are other elements entering into the oil industry which are rapidly making Owensboro and Daviess County, the oil center of northwestern Kentucky. One of the principal branches of the industry, is the plant of the Indian Pipe Line Corp., situated at Doyle station. Through this station all the oil from eastern Kentucky, together with that from the western Kentucky fields of Warren and Allen counties, passes to the refineries of the Indian Refining Co., at Lawrenceville, Ill.

Pipe Line in Operation

Completed at a cost of approximately $675,000 this plant and pipe line was put into operation in the summer of 1922 and since that time millions of barrels of oil have been put through to the refining plants in Illinois. For almost a year the work of laying the 70 miles of 6-inch line from Lawrenceville was in progress. It is estimated the pipe, together with the labor, entailed an outlay of something like $600,000, while the equipment of the plant involved an expenditure of at least $75,000. The plant is equipped with two 100-horse power crude oil burning engines and high pressure pumps, and in addition to these there are pumps and engines for unloading the tank cars shipped to this point from other Kentucky fields. Two 25,000-bbl. tanks take care of the storage when it is unloaded from the tank cars, and many thousand barrels of crude oil are kept in reserve.

Aside from the line and equipment installed and in operation, this company is branching into Warren County fields. At present there are large forces of men at work laying a 6-inch line from Owensboro to southwestern Kentucky. The preliminary survey was made a year ago, although it was not until the latetr part of the past summer that actual laying of the line was commenced. By the first of the yenr, it is said, the line will be running oil. A pumping plant similar to that at Owensboro will be installed at Bowling Green, and from this point the oil will be pumped into storage here. Through this line the long freight haul from Bowling Green will be eliminated, which it is estimated wil save the company a million dollars a year in freight charges.

Over $1,000,000 Investment

Upon the completion of the line and the installation of the plant in Bowling Green, it is estimated this company will have invested in its property from the Warren County fields to Lawrenceville upowards of $1,340,000. In addition there is the possibility of the extension of a line from Haynes Station to Owensboro to transport the production from the Pellville and adjacent pools to the Owensboro station.

Two other industries essential to the production of oil have made their appearance since the opening of the pool around Pellville. In the summer of last year, the Frick & Lindsay company, of Pittsburgh, sensed the prospects of a prolific field and installed at Whiteville, the nearest shipping point, a pipe yard and supply station. The Eastern Torpedo Co. also has a station here and installed a magazine at Knottsville, where many thousand dollars worth of nitro-glycerin is stored. Prospective fields adjacent to Ownesboro are also served from this station. Both industries are proving beneficial to the producers inasmuch as it eliminates delays in transporting materials.

While development is progressing in many sections around Owensboro, it will be watched with a great deal of interest, not only by those identified with the industry but by the residents of this city. The discovery of oil close to a town like Owensboro usually has its advantages. It brings in new capital along with its quota of new residents. Business men are displaying a keen interest in the development and the prediction is made that this city will eventually take its place as one of the few Kentucky towns that can boast of being an oil center.

INDIANS RECEIVED $36,000,000 FOR OIL

WASHINGTON, D. C., Feb. 11.—The nation's wards received $36,659,810 in royalties last year from oil and gas leases on their lands, their oil bonuses ranging from 12½ to 20 per cent on a total production of 53,914,477 bbls., according to a report made public by the Interior Department. The richest Indian oil lands are in Oklahoma where, the report said, the Osages realized $30,512,111 on 41,810,178 bbls. and the Five Civilized Tribes received $5,591,008 from a production of 11,414,619 bbls.

BAYONNE HOUSING PLAN

NEW YORK, Feb. 9.—Oil and industrial interests at Bayonne, N. J., have formed the Bayonne Housing Corp., which will build groups of modern apartment houses for employes at minimum rental. Interests involved include Standard Oil Co. of New York, Tide Water Oil, Vacuum Oil, International Nickel, Babcock & Wilcox, American Radiator Co., Pacific Borax Co. and estate of J. H. Mahnken. John D. Rockefeller & Son, E. S. Harkness and Bayonne citizens have subscribed to the stock of the corporation, whose president is George E. Keenen. The first group of five houses will be built at a cost of $1,000,000 under supervision of A. J. Thomas, the architect who planned the Metropolitan Life Insurance Co. houses in the borough of Queens, Long Island.

California Type

SMITH OIL AND GAS SEPARATOR

Conservation of Natural Gas

Conservation of natural resources is paramount in the minds of the people today.

The separation of the oil and gas in a Smith Separator is positively thorough. Oil leaving the separator is entirely free of gas, and is a salable product.

The gas can be delivered into the pipe line, promptly and steadily. All values are realized immediately.

There is no waste, either volume or value.

SMITH SEPARATOR COMPANY
Chestnut & Smith Corpn. Bldg.
TULSA, OKLA.
Long Distance Phone 72

821 Hass Building, Los Angeles, Calif.

Mid-Continent Type
Made in Different Sizes

ONE reason for the popularity of The Star Portable Drilling Machine is the saving of time and expense of moving and rigging up. A Star will do for you what it does for others as told in our booklet "PROOF"—sent upon request.

The Star Drilling Machine Co.
Akron Ohio
Factories
Akron, Ohio, Chanute, Kans., Portland, Ore.
Long Beach, Cal.

A

DEVIL'S STEEL HAND

Cleans Plugged Hole In 14 Hours

Other tools fished 8 days and failed

Devil's Steel Hand

P. W. Fusselman, of Claremore, Okla., was down 1,060 feet in a 6¼-inch hole when he lost the entire string of tools. Four slips from the combination socket were also lost in the hole. After fishing eight days without any success the hole was declared plugged.

Our Tulsa Rental branch offered to take the fishing job on a guarantee basis —to clean the hole or no pay. The offer was accepted and a 5 3/16" DEVIL'S STEEL HAND was placed on the job.

In 14 hours the hole was clean, slips and all!

Devil's Pitchfork

The expense incurred in the previous eight days' fishing, not including the cost of time and labor, would have more than paid the cost of either a DEVIL'S STEEL HAND or DEVIL'S PITCHFORK.

Think this over before you start on your next fishing job.

BROWN

WELDING & MACHINE CO.

Main Office and Factory: Breckenridge, Texas

Rental Branch: 310 E. 3rd St., Tulsa, Okla.

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Salt Domes Topic Of Geologists at Houston Sessions

HOUSTON, Tex., Feb. 11.—The members of the Houston Geological Society have completed a list of the technical papers to be read before the annual meeting of the American Association of Petroleum Geologists, which convenes here March 26 next for a two days' session. Approximately 600 members of the National association are expected. The list of papers includes:

E. De Golyer, The Origin of Salt Domes.

Alexander Deussen, The Orange, Texas, Oil Field; The Alignment, Distribution and Classification of Gulf Coast Salt Domes.

Donald C. Barton, The Salt Domes of South Texas, Falfurrias, Palangana, Piedras Pintas, Sol del Rey, La Sal Vieja and White Point; The Spindletop Salt Dome and Oil Field, Jefferson County, Texas. (R. B. Paxon will collaborate); The Jennings Salt Dome and Oil Field, Arcadia Parish, La. (R. H. Goodrich will collaborate); The Pine Prairie Salt Dome, Evangeline Parish, La.

Marcus I. Goldman, Preliminary Notes on the Petrography of Salt Dome Caprock.

J. A. Cushman, The Use of Foraminifera in Geologic Correlation.

Charles Schuchert, The Values of Minute and Large Fossils in Subsurface Straightigraphy.

E. G. Gaylord and G. Dallas Hanna, The Diatoms of the Monterey Shale of California.

J. M. Sands, The Burbank Oil Field of Osage County, Oklahoma.

Paul Weaver, Interpretation of Rotary Drill Samples.

Luther White, Oil From Unclosed Structures in Oklahoma.

C. E. Decker, Movement of Oil and Gas.

F. E. Vaughan, The Five Islands, Louisiana, Avery, Jefferson, Weeks, Cote Blanche and Belle Isle.

Laura Lee Lane, The Hockley Salt Dome, Liberty County, Texas.

W. F. Bowman, The South Dayton Salt Dome, Liberty County, Texas.

Ray Baker, The Humble Oil Field, Harris County, Texas; The Sour Lake, Texas, Oil Field, Hardin County.

F. C. Sealey, The Markham Oil Field, Matagorda County, Texas.

Albert G. Wolf, Big Hill Salt Dome, Matagorda County, Texas.

W. F. Henninger, The Salt Dome at Boling, Wharton County, Texas; The Hockberry Island Salt Dome, Cameron Parish, La.; The Batson, Texas Oil Field.

David Donoghue, The Pierce Junction Oil Field, Harris County, Texas; The Salt Dome at Bayou Bullion, La.; The Salt Dome at Catahoula Lake, La.

Luis Friedman, The Big Creek Salt Dome, Fort Bend County, Texas.

Dilworth Hager, The Blue Ridge, Texas, Oil Field.

Wallace E. Pratt, The Davis Hill Salt Dome, Liberty County, Texas.

George M. Bevier, The Damon Mound Salt Dome, Brazoria County, Texas; The Barbers Hill Salt Dome, Chambers County, Texas.

Dave P. Carlton, The West Columbia Oil Field, Brazoria County, Texas.

Paul Applin, The Stratton Ridge Salt Dome, Brazoria County, Texas.

John Suman, Hoskins Mound Salt Dome, Brazoria County, Texas; The Saratoga Oil Field, Hardin County, Texas.

Lyman C. Reed, The Welsh, Louisiana, Oil Field, Jeff Davis Parish.

H. E. Minor, The Goose Creek Oil Field, Harris County, Texas; The Edgerly, La., Oil Field.

T. R. Banks, The North Dayton Salt Dome, Liberty County, Texas.

W. D. Blackburn, The Hull Oil Field, Hardin County, Texas.

Robert B. Pack, The High Island Salt Dome, Galveston County, Texas.

A. S. Henley, The Big Hill Salt Dome, Jefferson County, Texas.

S. A. Thompson, The Vinton, La., Salt Dome.

P. K. Kelly, The Sulphur, La., Salt Dome.

E. W. Brucks, The New Iberia, La., Salt Dome.

D'Arcy M. Cashin, The Anse La Butte Oil Field, Louisiana.

Mrs. Applin, Miss Ellisor and Miss Kniker, The Subsurface Stratigraphy of the Coastal Plain of Texas and Louisiana.

Sidney Powers, Interior Salt Domes of Northeast Texas.

R. D. McCruer and W. C. McGlothlin, The Powell Oil Field of Texas.

R. B. Whitehead and R. H. Fash, Chemical Analysis of Oil Field Waters.

E. H. Sellards, The Luling Oil Field, Caldwell County, Texas.

E. G. Gaylord, Geological Department Methods and Administration.

J. K. Knox, The Probable Oil Resources of British India.

Dilworth Hager and R. O. Brown, South Bosque Oil Field, McLennan County, Texas; Minerva Field, Milam County, Texas.

Roswell H. Johnson and Milbert Swartz, A Microscopic Study of the Inter-relationship of Oil, Gas and Water.

Roswell H. Johnson, H. O. Blackwood, Forest Dorn, The History of Water Drive Oil Production.

Ben Belt, The Chapeno Salt Dome, Tamps, Mexico.

William Kennedy, Bryan Heights Salt Dome, Matagorda County, Texas.

W. C. Spooner, Salt Domes in Northern Louisiana.

R. A. Birk, Pooleville Formation of Pennsylvania Age Around Western End of the Arbuckle Mountains.

C. W. Tomlinson, A Buried Hill East of Ardmore, Okla.; The Graham Field, Oklahoma.

A. L. Kennedy, Subsurface Conditions in the Okemah-Wewoka District.

G. F. Anderson, Experiments on the Wesr of Sand Grains.

J. M. Douglass, The Wellington and Fort Collins Region, Colorado.

Martin Gavin, Kerogen.

Paul Torrey and Ionel Gradescu, introduced by R. H. Johnson. An Experimental Study of Faulting.

Jack Frost, introduced by R. B. Whitehead, Some Characteristics of the Comanchean Formation at Mexia as shown by Well Cuttings.

Edgar Krauss, Logging Wells Drilled by the Rotary Method.

Henry A. Ley, Subsurface Observations in Southeastern Kansas.

"Need of a Geological Museum in the Southwest" by J. A. Udden.

W. KENTUCKY-TENNESSEE

(Continued from Page 60)

eastern Kentucky during the boom days in Estill and Lee Counties.

Russell County

Mr. Redman, of Lima, Ohio, is in Russell County making arrangements to start drilling on the O. A. Lay farm, northeast of Creelsboro, near the Old Olga post office. R. F. Logan of Sullivan, Ind., is drilling at 600 feet on the L. D. Potts farm, at Irish Bottom; J. G. Elmitt is moving a rig to the F. M. Flatt farm about 2 miles southwest of the Creelsboro Field.

The Creelsboro Oil & Development Co. is having its drilling machines put in first class condition during the bad weather as the company is planning an extensive drilling campaign. This concern drilled six wells during the latter part of 1923, five of which were producers.

CANADIAN LUB CONTRACT

The Canadian Independent Oil Co., Ltd., has closed a large contract to supply lubricating oils to Canadian Pacific steamships plying to and from Atlantic ports. The company's compounding plant will be located at East St. John, New Brunswick.

Reid Type PW, 24 Ft. Diameter Band Wheel Power

To meet the insistent demand for a power capable of lifting large quantities of fluid from deep holes or from a large number of wells, the REID Type PW, 24 ft. diameter bandwheel power was designed. It has a long stroke (24 inches) and all parts are properly proportioned to withstand the strains arising from the heavy duty for which it is used.

Patented September, 1913. Other patents pending

Our Type PB, 18 ft. power weighs 5900 pounds, whereas the new design 24 ft. power weighs 11400 pounds. It can be readily seen how much the new power was strengthened.

The following table also gives interesting data:

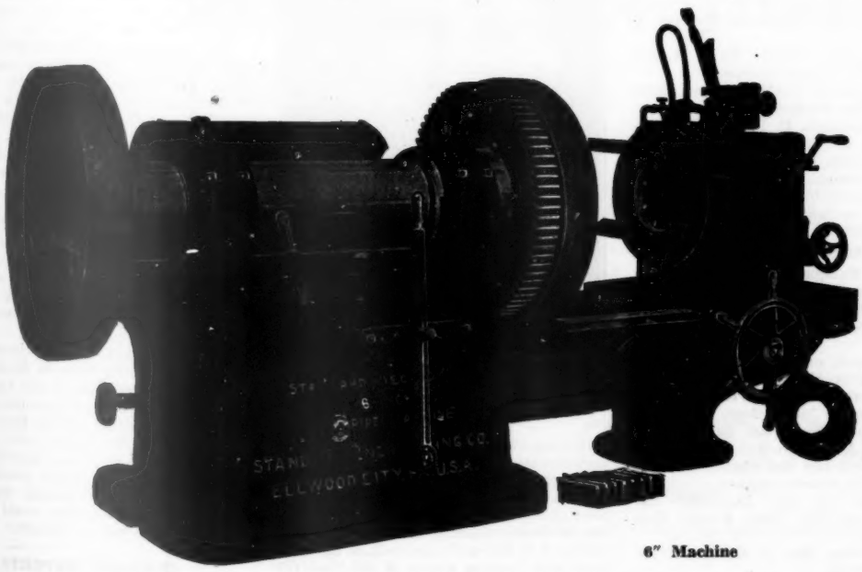
Part—	Type PB Size	Type PB Wt. Lbs.	Type PW Size	Type PW Wt. Lbs.
Shaft	5" dia.	250	5 11/16" dia.	450
Base		520		650
Wheel Hub		360		1120
Wheel		2392		3438
Lower Spokes	7/8" dia. 8 used	19¼	7/8" dia. 12 used	25½
Upper Spokes	¾" dia. 16 used	13	¾" dia. 24 used	17½
Angles	2½x2½x 5/16 8 used	46¼	3x3x 5/16 12 used	68
Strain Rod	1⅛" dia.	92	1½" dia.	220
Upper Eccentric	20" stroke	840	24" stroke	1780
Lower Eccentric	20" stroke	860	24" stroke	1860
Binding Bolts	2" dia.	36	2" dia.	47
Bronze Bushing	5½x7 11/32	18	6 7/16x10⅛	50
Bronze Bearing Plate	14" dia. x ¼"	11	19" dia. x ⅜"	28½

Ask for Bulletin No. 25

JOSEPH REID GAS ENGINE COMPANY, Oil City, Pennsylvania

Branches and Agencies: Marietta, Ohio; Logan, Ohio; Newark, Ohio; Fort Recovery, Ohio; Haynesville, La.; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Bradford Supply Co., Robinson, Ill.; Frick & Lindsay Co., Kentucky Distributors; S. R. Shoup, 708 Pacific Electric Bldg., Los Angeles, Calif.; Oklahoma, Kansas, Texas, Arkansas and Wyoming, Frick-Reid Supply Co., Tulsa, Okla., and Branches. Branch Shop: Tulsa, Okla.

STANDARD WIELAND



6" Machine

So strong and durable are the STANDARD WIELAND PIPE THREADERS AND CUTTERS that one may almost claim they will last forever.

There are no complicated parts to confuse the operator or to become out of order. Wide chasers insure extra long threads in one cut. All gear speed changes permit the use of single speed pulleys or constant speed motors.

Made in all regular sizes up to and including 24 in.

Pipe Threaders and Cutters

Send for our latest bulletin that describes the Standard Wieland in greater detail—at your request we will also send you our list of users.

STANDARD ENGINEERING COMPANY
Ellwood City, Penna.
San Francisco Office: 1803 Claus-Spreckles Bldg.

REFINING AND MARKETING

M. W. Kellogg Co. is Exclusive Agent of The Cross Process

An agreement has been made between the M. W. Kellogg Co. of New York, and the Gasoline Products Co., of Kansas City, Mo., whereby the former company is given the exclusive selling and construction rights for the Cross Cracking Process, the patent rights of which are owned by the latter company. The M. W. Kellogg Co. is widely known through its sales and installation of refinery equipment. The company during the past year has made several installations of the Fleming stills controlled by the Richard Fleming Co., in the Mid-Continent area and other sections. The company will continue to be the exclusive agents of the Fleming equipment.

The Cross process has been installed at numerous plants principally located in the Mid-Continent Field. Under the new sales and construction arrangements, the Gasoline Process Co. will continue to be the licensee of the process and will also have a supervision of all installations. The M. W. Kellogg Co. will enlarge its sales force and make additions to its construction organizations as needed. Paul Gerhard will continue as the Mid-Continent representative of the company with offices located in Tulsa.

MARKET IS SOFTENING IN NORTH TEXAS AREA

FORT WORTH, Tex., Feb. 11.—Due to unfavorable weather conditions in most parts of the country, and a consequent slowing down of movements of refinery products, the New Navy gasoline market in North Texas is showing a softening tendency, general quotations on 58-60 New Navy today being 12c to 12½c. Practically no sales are being made at the present time for shipment over the month, and some concessions in price can be secured for immediate shipping instructions. As a result, present indications are that New Navy prices will recede to a point not far below that which prevailed before the recent crude and tank wagon advances.

The recent export order for the 64-66 grades has helped to prevent a further decline in that it has prevented the refiners making these grades from turning back to New Navy, and thus adding further to the available supply.

Kerosene still remains firm at 6c, with some quotations as high as 6¼c.

Due to somewhat of a scarcity of this material and a fairly good demand, refiners are experiencing no difficulty in disposing of their offerings of kerosene at the above prices.

Natural gasoline is off approximately ½ to ¼ of a cent in sympathy with the straight run products, which is primarily due to bad weather conditions. Present demands are slow and like New Navy some concessions in price can be secured for immediate shipping instructions. Grade A being generally quoted at 10¾ to 11c and Grade B 10 to 10¼c.

The past week has developed more distillate and gas oil available than heretofore, 38-40 Light Straw being generally quoted at 4¼ to 4½, and 32-36 at 3½ to 3¾c.

After enjoying a period of prosperity, the North Texas Fuel Oil market is showing a somewhat weaker tendency, present prices on 24-26 ranging from $1.30 to $1.50 per barrel. Most of the plants have caught up with their future sales on this grade, and while the recent drilling activities in North Texas have created some demand for fuel oil at the higher prices, the general movement of the past week has not been so good.

N. P. M. A. SESSION IN ST. LOUIS, APRIL 7

ST. LOUIS, Mo., Feb. 9.—The spring convention of the National Petroleum Marketers' Association will be held in this city April 7-10 inclusive according to an announcement made here today by Charles Osthoff, Jr., secretary of the St. Louis Petroleum Club. The club extended an invitation for the national association to hold its meeting here several weeks ago. The spring convention last year was held in this city. Several other cities sought to obtain the convention this year but the selection was announced after a poll of the association's membership. The local Petroleum Club will again act as host and has already planned several entertainment features for the several hundred jobbers which will attend. The meeting will be quartered at the Statler and Jefferson hotels.

IOWA OIL MEN PLAN DES MOINES MEETING

The third annual of the Iowa Independent Oil Men's Association will be held at Fort Des Moines Hotel, Des Moines, Iowa, February 14 and 15. An interesting program has been provided and a large attendance is expected. Following is the program as announced by the committee in charge:

Thursday Morning, February 14

Registration and Get-Together.

All jobbers and their wives must register, in order to get complimentary banquet tickets.

Thursday Afternoon

Call to order at 1.45 p. m., president.

Address of welcome, Ralph H. Faxon, of the Des Moines Chamber of Commerce.

Response.

Are Prices Too High?· By a Representative Refiner and Producer.

Cost of Service, T. M. Clarke, Community Service Station Co.

Station Operation, P. L. Welsh, Western Refining & Oil Co.; H. E. Wormhoudt, Manhattan Oil Co.

Open Discussion.

Ladies' Entertainment, Auto Tour of Des Moines, including stops at principal points of interest.

Thursday Evening

Banquet, Banquet room, Mezzanine floor, Fort Des Moines Hotel, 6:30 p. m., courtesy of the Des Moines jobbers to all jobbers and ladies. J. M. Conover, toastmaster.

Elegant menu, orchestra.

Address, Lieut. Gov. John H. Hammill.

Friday Morning Session, February 15.

In Oak Room, lobby floor, 10 a. m. sharp. Price irregularities on the part of resellers. J. M. Conover.

Investigations and Government control, by a nationally known speaker.

Possibilities of the Domestic Oil Burner, Charles G. Gray, Purity Gas Station.

Discrimination, Ben J. Gibson, State Attorney General.

What Constitutes a Profit? Lafe S. Collins, S. L. Collins Oil Co.

Friday Afternoon

Closed session, Oak Room.

Report of Field Secretary, M. L. Long.

Report of President, L. F. Kuehnle.

Report of Committees, F. W. Callahan.

Election of Officers

President, three vice presidents, secretary, treasurer, seven directors. Adjourn.

Ladies' entertainment; theater party.

PRICES RULING STRONG IN OIL CITY MARKET

OIL CITY, Pa., Feb. 11.—Considered as a whole the market for refined products manufactured in northwestern Pennsylvania looks good at the present time, refiners and marketers agree. All products are holding up in good shape and prices are strong.

About the only bad feature of the market at present is the fact that filtered stocks are not as strong in proportion as the other stocks. There is not enough difference in price between unfiltered and filtered goods to pay for the cost of the extra work entailed. There seems to be an absence of demand for the heavy filtered cylinder stocks. Some refiners believe this is due to the desire of persons to buy the cheapest now that the prices are so much higher than they were three months ago.

Both kerosense and gasoline are stronger and the refiners are expecting more increases in the tankwagon quotations for these products in the near future.

The demand for neutrals is very good now. As the buying season for this petroleum product is just opening up the expectation is that the prices will be advanced in the near future still further.

GILLAND NEW MANAGER PURE OIL DIVISION

D. L. Gilland has been appointed refinery and sales manager for the International-Ardmore division of the Pure Oil Co., assuming his new duties last week, with headquarters at Tulsa. Mr. Gilland was formerly sales manager of the

D. L. Gilland

Oklahoma Producing & Refining Corp., in which the Pure Oil Co. became interested through stock purchase last year. In his new position Mr. Gilland will have charge of the operation and sales of the Muskogee plant of the Oklahoma Producing & Refining Co. as well as the Ardmore and Cushing plants of the Pure Oil Co. All three plants are now operating with a total output which ranks among the largest in the Mid-Continent Field.

Mr. Gilland became connected with the Oklahoma Producing & Refining Co. in 1917 when he organized the Crown Division, a marketing organization with large wholesale and retail facilities in Oklahoma. He became sales manager of the company in 1921. Previous to his employment by the O. P. & R. he was connected with the sales organization of the Pierce Oil Corp. for 10 years.

Gasoline Tax Vote Is Being Planned In Several States

Increase in registration of automobiles is being followed by a more insistent demand for improved roads and legislative agitation for a gasoline sales tax. About 35 States have passed laws levying a gasoline sales tax ranging from 1 to 3 cents a gallon. The people of Massachusetts are expected by referendum vote in November, 1924, to approve the gasoline tax law passed by the Legislature and approved by Governor Cox in May, 1923. The Governor of Michigan, who last session vetoed a 2-cent gasoline tax bill, has recently declared himself in favor of "a fair gasoline tax."

Gasoline tax bills will be presented to the Iowa Legislature at a coming special session, and gasoline tax measure vetoed by the Governor of Wisconsin is expected to be passed over a possible veto.

Bills introduced in New York State Assembly and Senate propose a 2-cent gasoline tax and reduction of automobile registration fees, imposing a flat rate of $3 on gasoline cars and $10 on electrically propelled cars.

The Automobile Club of Missouri and the Good Roads Association of greater Kansas City are engaged in a campaign to secure popular approval for speeding up the road building program of the State through adoption of a higher license fee or gasoline tax, or both, so that work planned for a 10-year period can be completed in four or six years. Road committees of the Missouri House and Senate recommended that the Governor call a special session of the Legislature and that the Legislature levy a 2-cent gasoline tax and raise the automobile license fee a reasonable amount so that Missouri's road program may go on.

An easy victory for a gasoline tax measure is predicted at the next session of the Nebraska Legislature.

The Legislature of Minnesota last year provided for a constitutional amendment to be submitted to the people in 1924, permitting the proceeds of a gasoline tax to be applied to State highway maintenance.

It is not necessary to call a special session of the Kansas Legislature to enable the State to levy a 1-cent a gallon tax on gasoline, according to an opinion by Frank J. Ryan, Secretary of State, who said the tax amendment to be submitted to the voters next November, if passed, would enable the 1925 Legislature to fix a gasoline tax and that a separate amendment was not necessary.

"There appears to be sentiment in various parts of the State in favor of calling a special session of the Legislature to enact a gasoline tax amendment which could be submitted at the next November election," Mr. Ryan said. "I feel certain that such a tax could be levied by the Legislature under provisions of the tax amendment already before the people. An extra session would cost the taxpayers $40,000 to $50,000."

HOUSTON EXPORTS

HOUSTON, Tex., Feb. 20.—The Marland Oil & Refining Co. will load 1,000 bbls. of lubricanting for export from its Texas City terminals on the steamer Michigan. The Humble Oil & Refining Co. loaded the British tanker Montrolite with 73,000 bbls. of crude at Texas City for export to Havana. The steamer Narcissus left Galveston with 200 bbls. of lubricating oil for Liverpool, 30 bbls. for Manchester and 4,936 pounds of asphalt for Avonmouth included in its cargo.

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Patent Granted On Gasoline Process

Casinghead Gasoline is Blended in Permanent Manner With Distilled Products of Heavier Oil Such as Kerosene

A new process for the manufacture of gasoline by redistilling casinghead gasoline and blending it in a permanent manner with the distilled products of a heavier oil, such as kerosene, has been invented by Kork Kelley, formerly connected with the gasoline department of The Texas Co., and builder of a number of gasoline plants in the Mid-Continent fields. The new product is claimed to be superior not only to mixtures of casinghead gasoline and naphtha or kerosene under methods now used, but also to commercial gasoline, and one advantage of the invention is that it enables the manufacturer of casinghead gasoline to convert his product into commercial form without undergoing the risk of losses entailed in shipment. The apparatus recommended in the patent is exceedingly simple in construction, requiring no great outlay of expense in installation.

The distinctive characteristics claimed of the gasoline manufactured by this process are the peculiar character of its distillation curve, its comparative freedom from the disagreeable odors that are peculiar to commercial gasoline, and the permanence of the blend obtained by the intimate commingling of the vapors. The absence of offensive odors is due to the low temperatures at which the ingredients are vaporized, allowing a minimum of carbon monoxide gas in the finished product. While commercial gasoline often contains as much as 10 per cent of this gas, the fuel manufactured by this process in the laboratory of the Patent Office was found to contain less than 1 per cent carbon monoxide.

Claim Greater Economy

Another advantage claimed for the invention is that gasoline can be manufactured more economically by this method than by others now in use.

The description of the apparatus and the advantages and purposes of the invention are outlined as follows by Mr. Kelley in his application for the patent. This application was filed August 15, 1921, and was granted January 15, 1924. While some of the figures contained in the statement have changed considerably during the past two and a half years, the fundamental principles and theories of the invention have not been altered.

The main features embodied in the new process, as detailed in the patent, which, it must be kept in mind, was filed more than two years ago, follow:

Casinghead gas, as it is commonly known in oil regions, is a naturally formed gas coming from oil wells and consisting of hydrocarbon gases and readily liquefiable products. Ordinarily casinghead gas is utilized by condensing the liquefiable portions thereof to produce what is commercially known as casinghead gasoline which it has been the practice to transport in tank cars from the plants at which it is produced to different places of use, such as rubber plants, paint factories and other places where it has heretofore been utilized in the manner presently explained in producing motor fuel. But the shipment of casinghead gasoline in its raw state is very hazardous because of its low initial boiling point, its very high volatility, and its very high vapor tension, generating high pressures in the tank cars. Because of such hazardous characteristics, it has been the practice of the casinghead gasoline industry, in an effort to at least lessen the hazard, to use specially constructed tank cars insulated against heat from atmospheric temperatures. Furthermore, because of the extreme volatility of said gasoline and the consequent dangers of fire and explosion, the loading and unloading of tank cars requires the services of experts especially skilled in the work. Casinghead gasoline, moreover, is not usable by itself as a motor fuel because of its extreme volatility, and also because of its light gravity it does not generate the requisite heat units.

Used for Blending

One of the uses to which casinghead gasoline has been heretofore put is the mixing thereof with a heavier gasoline, or so-called naphtha, resulting in the production of a commercial gasoline usable as a motor fuel and for domestic purposes. Such liquid fuel has been produced in very large quantities in the past, but owing to the increase in the price of naphtha to a point now prohibiting its use for that purpose, and also because of lack of production of naphtha —the refineries now refusing to cut the naphtha in fractionating the petroleum— it is no longer economical or practical to produce a commercial liquid fuel by the mixing of the casinghead gasoline and naphtha. In fact, naphtha alone has now advanced to a price in excess of high-grade gasoline.

In view of the high cost of naphtha and lack of production of it, it is now the practice to produce and utilize mixtures of the casinghead gasoline with kerosene formed by putting the two together while both are in liquid form. But such product has decided disadvantages and objections and is quite unsatisfactory and inefficient as a motor fuel, due primarily to its high end point (meaning the highest or maximum temperature reached in distilling a hydrocarbon oil) and resulting large amount of carbon it deposits in the ordinary motor of today because of incomplete and imperfect combustion. Another, and probably even more serious objection to such kerosene-casinghead gasoline mixture is its susceptibility to separation or unmixing in transportation and storage, thus re-creating the conditions of hazard and disadvantage hereinbefore mentioned with respect to casinghead gasoline. There is the further disadvantage that, accompanying such separation there is a so-called "outage" or loss incurred due to evaporation. This percentage of loss frequently runs very high, causing embarrassing conditions arising from shipments; for example, a tank car started on its way to a distant point completely full, may arrive at its destination only partially full, the loss being due to the aforesaid separation and evaporation.

Object Attained by Invention

A principal object attained by the present invention is the provision of a motor fuel much cheaper in cost of production and equally, or even more, efficient than gasoline such as now used for automobiles. Another main object attained by the present invention is the production of a permanent blend from casinghead gasoline and a heavier hydrocarbon oil, such as kerosene, and the present invention comprises not only such new product but primarily the process by which the product is produced. Further objects are the provision of a process which may be expeditiously and economically carried out with the result of producing the permanent blend of casinghead gasoline and hydrocarbon oil, such as kerosene, at a cost far below the cost of production of ordinary refined gasoline.

The initial cost of the ingredients of the new product which may be employed in producing this invention is very low, and with a correspondingly low cost of carrying out the process of this invention, the new product is producible at a cost far below that of gasoline and can be marketed much cheaper and at a relatively greater profit.

The invention overcomes in large part, and it is believed entirely, the objections, defects and difficulties with respect to the prior mixtures employing casinghead gasoline, and secures the aforesaid objects by providing a blended product containing casinghead gasoline, and by providing a method of preparing the same which consists, generally stated, in distilling or vaporizing a petroleum oil, such as kerosene, for example, preferably under superatmospheric pressure of an inert gas, such as casinghead gas, and at a temperature sufficient to fractionally distill or otherwise break up more or less of the kerosene oil, and while the more volatile portion of the kerosene oil is being driven over, or a vapor composed of the more volatile or lighter constituents of the kerosene oil is being formed, introducing and commingling with the vapor of the kerosene oil the vapor of casinghead gasoline and then condensing the blended vapors to a liquid.

What Drawing Illustrates

In the accompanying drawing illustrating, partly diagrammatically, a system of apparatus suitable for carrying out the new process. Figure 1 is a top plan view and Figure 2 is a front elevation with some parts in vertical section on line 2—2 of Figure 1.

Numbers 5 and 6 are two oil stills of any suitable well-known construction and each shown as having a fire chamber 7 and a chimney 8, both formed of concrete or other suitable material. Each still is provided with a safety valve 9 and a dome 10 from which a vapor-conducting pipe 11 leads to a so-called "knock-out" box 12 which is a closed chamber shown in this instance as common to both stills, both pipes 11 leading thereto. In said "knock-out" box or commingling chamber, the vapors from the two stills commingle and in that form are led through a pipe 13 to a suitable condenser 19 which, in the form illustrated in the drawings, comprises coils of pipe 14 enclosed by a housing made of louvre boarding so arranged as to retain water spray within the housing while permitting circulation of air. Number 15 shows a valved return flow pipe or "run back" leading from the bottom of the "knock-out" box 12 back into the still 6. Number 16 is an outlet or discharge pipe leading from the exit end of the cooling coils 14 to a receiving tank 17, there being within said tank a baffle plate 18 (shown in dotted lines in Figure 2) positioned over the discharge

Fig. 1.

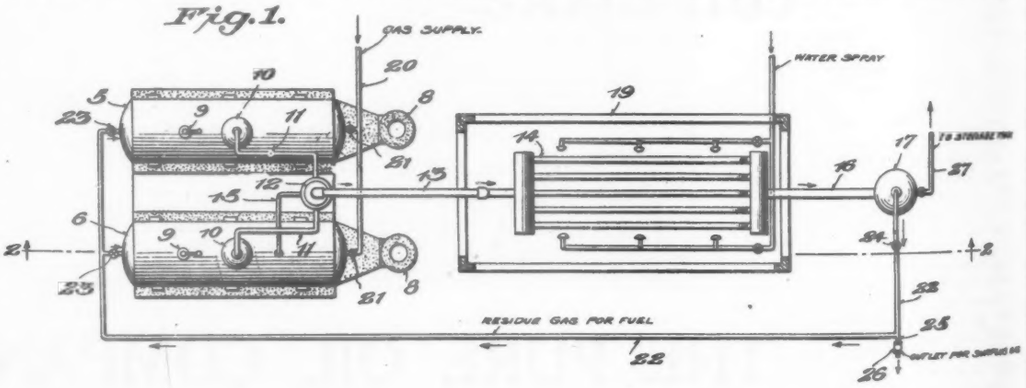
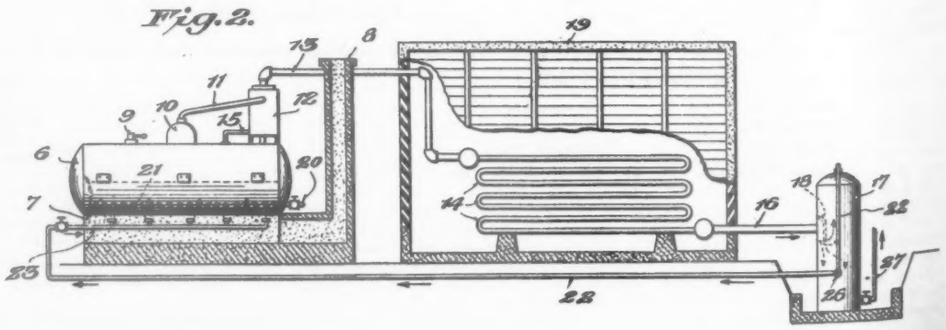


Fig. 2.



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Gas Oil	Paraffin Oils
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Dynamo Oils	Road Oils
Machine Oils	Asphalt Cement
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end of pipe 16 to deflect the liquid from said pipe downward to the bottom of the receiver 17. Number 20 is a gas supply pipe from which valved branches 21, 21 lead into and along the bottom of the stills 5 and 6 respectively, for practically the entire length thereof, said branch pipes being perforated within the still, preferably at their bottom, for the distributed discharge of gas to agitate the contents of each still as presently more fully described. Number 22 is a gas-conducting pipe leading from the top of receiver 17 to two valved branches 23, 23, said branches being provided with suitable burners located in the fire boxes and under the stills 5 and 6 respectively.

Near the receiver 17 the pipe 22 is provided with a pop-valve 24 which is set or tensioned to open only under a certain maximum pressure and to thereby hold the pressure in the system up to the desired point. Number 25 is a branch pipe leading from the pipe 22 and provided at its outer end with a relief valve 26. An outlet pipe 27 leads from the bottom of receiver 17 to conduct the liquid product to suitable storage tanks not shown. The process constituting this invention may, of course, be carried out in other suitable arrangements of apparatus though that illustrated is the one at this time preferred by the inventor.

Procedure to Be Followed

In using the aforesaid apparatus to carry out the process and produce the product of this invention, the procedure may be as follows: Still 6 is charged with a suitable hydrocarbon oil or petroleum distillate, for example kerosene, and still 5 is charged with casinghead gasoline, the amount of each being determined by the quality or gravity of the desired finished product; in other words, the gravity of the final product may be varied by varying the relative proportions of the two commingled vapors coming from the separate stills. By way of a specific example, 500 gallons of casinghead gasoline of 80 B. is introduced into still 5, and 500 gallons of petroleum such as W. W. kerosene of 42 B. is introduced into still 6. The stills are then fired and distillation continued, preferably under super-atmospheric pressure, for example about 30 pounds, until practically all of the casinghead gasoline has been vaporized and about 50 per cent of the kerosene oil has been vaporized, when the heat is cut off. The vapors formed in the stills 5 and 6 are led by the pipes 11 to the "knock-out" box 12 in which they are intimately commingled. From the "knock-out" box 12 the commingled vapors are conducted through pipe 13 to and through the coils 14 of the condenser and thence through the pipe 16 into the receiver 17. Vapors condensed in the "knock-out" box 12 flow through the pipe 15 back into the still 6 for further heating. The liquefied vaports which are condensed and collected in receiver 17 will be found to have a gravity of about 66 B. The residue in still 6 is then withdrawn and the stills are then ready for a new charge.

During the firing of the stills, hydrocarbon gas may be introduced into the stills through the pipe 20 and its perforated branches 21, 21, but is not essential, such injection of gas when used serving to agitate the liquid content of both stills and thereby prevening excessive local heating and also serving as a vehicle for carrying the vapors through the system. When this gas, bearing the liquid condensate of the commingled vapors, reaches the receiver 17, the gas is there separated from said condensate and may be conducted from the top of said receiver through the pipe 22 to the burners under the stills where it is utilized and combusted as fuel for heating the stills. In passing through pipe 22 the gas must pass the pop valve 24 which serves to hold the required pressure on the system, the maintaining of such pressure back onto the surface of the kerosene in still 6 serving to hold back the heavier hydrocarbons for further heating. When the gas passing from receiver 17 into pipe 21 is more than required for consumption at the burners or exceeds the predetermined pressure to be maintained in the system, excess gas may be discharged to the atmosphere or elsewhere through branch pipe 25 and its escape valve 26.

Vapors Are Blended

As a result of the aforesaid distilling of the casinghead gasoline in still 5, its vapors are carried over into the "knock-out" box 12. And simultaneously therewith, as the result of the heating of still 6, the vapor products resulting from the heat treatment of the kerosene oil are carried over in lighter fractions into the "knock-out" box 12 and there commingled with the vapors from still 5. The vapors from the two stills by being thus commingled in vapor form in the "knock-out" box 12 bring about a temperature and vapor blend, the vapors from each of the stills coming over in fractions and commingling together, and such action constituting a very important feature of the invention. Care should be taken to fire the stills gradually and slowly so as to avoid overheating.

The new product or condensate is a refined product containing redistilled casinghead gasoline blended in a permanent manner with the distilled products of the heavier oil. This new product is not only superior in fuel qualities to the aforesaid prior mixtures of casinghead gasoline with naphtha or kerosene, but it is also superior to commercial refined gasoline. It possesses distinctive characteristics amongst which may be noted the peculiar character of its distillation curve, its relative freedom from the offensive and disagreeable odors of commercial gasoline, its clean burning properties due to the absence of heavy hydrocarbons, and the permanence of the blend, certainly for such period of time as would ordinarily elapse between production and consumption.

The aforesaid apparatus and procedure may be varied in carrying out the process and producing the product without departing from the present invention.

C. M. LAMASON RESIGNS AS REFINERY MANAGER

C. M. Lamason, widely known in Mid-Continent refinery circles, has resigned as refining and sales manager of the International-Ardmore division of the Pure Oil Co. with headquarters at Tulsa. Mr. Lamason has had active charge of the Ardmore and Cushing refineries of the Pure Oil Co. during the past two years.

He has been engaged in refinery or sales work since 1912 when he entered the employ of the Standard Oil Co. of New Jersey, at Bayonne, N. J. At this plant and that of the Imperial Oil, Ltd., located at Sarnia, Ontario, he filled practically every position having to do with the practical operation of a refinery.

In 1916 Mr. Lamason was sent to the Vancouver plant of the Imperial Oil, Ltd., as assistant manager. Two years later he returned to the United States and engaged in refinery construction in Kentucky and Texas and was for a time in charge of the research work for the Humble Oil & Refining Co. He became connected with the Pure Oil Co. in 1921, opening a Chicago office. Mr. Lamason will remain in the Mid-Continent Field devoting his time to private interests.

NEW WICHITA FALLS STATION

Oklahoma City, Okla., Feb. 11.—The American Refining Co. of Wichita Falls, has contracted for the erection in that city of a filling station to cost about $15,000. The color scheme is to be red, white and blue.

WHITE OIL NAME CHANGED

HOUSTON, Tex., Feb. 2.—Official announcement has been made that the White Oil Corp. will hereafter be known as the United Central Oil Corp., the general offices being located in Houston. W. A. Williams is president of the new corporation; N. N. Oille, vice president and A. Crone, treasurer.

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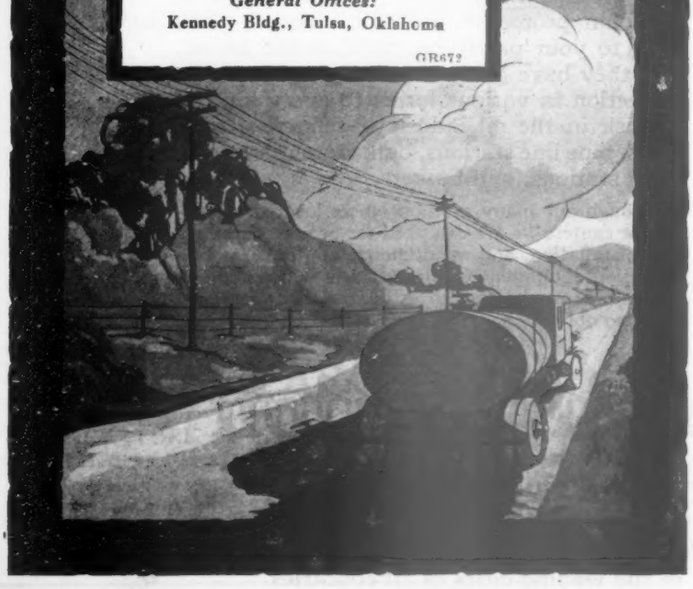


ATLANTIC COAST REFINED MARKET PRICES CONTINUED FIRM LAST WEEK

By N. O. Fanning

NEW YORK, Feb. 11.—The refined oil markets continued firm during the past week, although there were no general price increases. It is believed that quotations in this section of the country have about discounted the crude oil price advances of the last month and a half, and unless there are further advances in crude these markets will remain at present levels for the time being.

The trade is still in an optimistic mood, however. It is believed that further declines in crude oil production will take place during the next month or two and that there will be further price increases as a result of this.

One product forms an exception to the general rule, however. The price of bunker oil is still believed to be below normal, and further advances in prices here are believed imminent. The new price of $1.60 per bbl. at New York (lighterage extra) which was put into effect by the Standard Oil Co. of New Jersey is now quoted by all the principal factors on the Atlantic Seaboard. A further advance to at least $1.75 is expected shortly.

For the time being the trade has turned its interest toward Washington, where it has been announced that the Department of Justice will immediately set in motion its machinery to go to the bottom of charges by Governor McMaster of South Dakota, that "allied interests of the Standard Oil" had cornered the crude oil supply and enhanced gasoline prices. The department's action was taken upon instructions from President Coolidge, to whom was directed a telegram from the South Dakota governor, setting forth his charges, and a similar message from Governor Bryan of Nebraska.

The growing opinion in refined oil circles here is that there will be a new and thorough "investigation" of the oil business this year, but that the business itself will go on supplying oil on the basis of conditions dictated by production and consumption just the same.

Charter Market Active

The tank steamer chartering market continues active, indicating a brisk export trade. New figures include that of the tanker "Flamma," engaged to carry gas oil from Philadelphia to France. The steamer Scottish-American, 4,420 tons net, has been engaged to carry crude from California to Hamburg. The steamer W. E. Hutton, owned by the Pure Oil Co., has been engaged to carry lubricating oil from Smith's Bluff to New York. The steamer is of 4,359 tons net.

There was a decline in receipts of crude and refined oil by water at Atlantic ports during the week ended February 8. Receipts averaged 365,000 bbls. daily, of which 124,000 bbls. came from the Gulf Coast, 135,000 from the Pacific Coast and 106,000 bbls. from Mexico. There were no receipts from any other country.

The feature was an increase in receipts from Mexico, which averaged 106,000 bbls. daily against 52,000 bbls. daily during the week ended February 1, a gain of 54,000 bbls., or more than 100 per cent. This is in line with predictions that the temporary interference with shipments from Mexico would be more than offset by larger shipments later on. The present rate of shipments from Tampico is said to be above normal.

Receipts for the week ended February 8 show a marked decline from the peak. Receipts from the Gulf Coast show a decline of 76,000 bbls. in the daily average, reflecting a seasonal drop in consumption of gasoline on the Atlantic Seaboard and the decline in Powell oil production. Receipts from California show a drop of only 35,000 bbls. from the peak.

Atlantic Coast refiners are offsetting the smaller tanker receipts by increased takings of Mid-Continent crude, which are sent through pipe lines instead of by tanker.

The following table shows estimated daily average receipts of crude and refined oil at Atlantic Coast ports by water from the Gulf and Pacific Coasts of the United States, and imports from Mexico and other countries, for the last two weeks; also monthly record back to July 1, 1923 (figures in barrels):

	Week Ended Feb. 8	Feb. 1
Gulf Coast	124,000	177,000
Pacific Coast	135,000	180,000
Mexico and other imports	106,000	52,000
Total daily average	365,000	409,000

Monthly Record, Dialy Averages

	Gulf Coast	Pacific Coast	Imports	Total
Jan., 1924	121,000	163,000	79,000	363,000
Dec., 1923	184,000	153,000	119,000	456,000
November	186,000	141,000	109,000	436,000
October	200,000	164,000	134,000	498,000
Sept.	165,000	146,000	109,000	420,000
August	176,000	170,000	110,000	456,000
July	160,000	138,000	116,000	414,000

Highest monthly total since July 1, October, 15,438,000 bbls.

OIL CITY FIGURING COST OF PRODUCTION

President David B. McCalmont, of the Pennsylvania Oil and Gas Men's Association, writes to The Oil City Derrick:

I have noted from time to time the statement that oil operators through this section considered that they could do business at a profit if the price of crude was $4 per barrel and would resume drilling when the price reached that figure.

Several years ago, the Oil and Gas Men's Association secured the cost figures from the different fields of Pennsylvania and found that the cost varied from $3.75 per barrel in Forest and Greene Counties to $4.25 per barrel in Warren and Washington Counties. Venango County came about half way between with production cost of $4.02 per barrel. The important thing to which I am calling your attention is the fact that this sum—$4.02 per barrel—represented then and still represents the bare cost of producing the oil and replacing the investment and includes nothing for the interest upon the capital invested.

The owner of 10 bbls. of settled Pennsylvania production figures that the production is worth $50,000 and there are very few places where such a production could be procured at so reasonable a price by drilling. Six per cent interest on this sum amounts to $3,000 per year and the gross production per year from such a property would be 3,650 bbls., which is equal to about 82 cents per barrel.

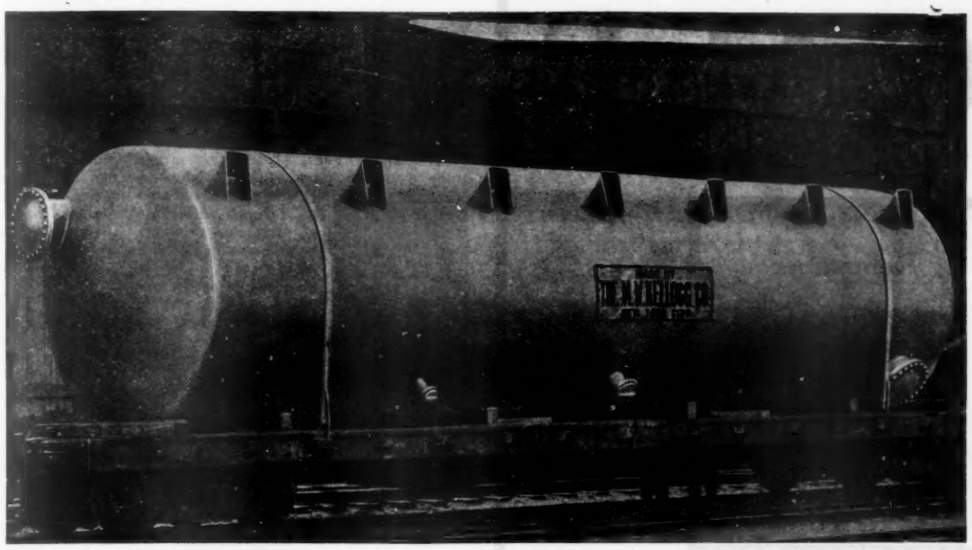
Therefore, the Venango County oil producer must have, in order to earn 6 per cent upon his investment, an average price of $4.84 per barrel for his crude oil.

Producers in some sections might get along at a figure of $4.50 to $4.60 while Washington and Warren County producers must have at least $5 per barrel if they are to continue in business and earn for themselves a profit equal to that secured by the owner of a good real estate mortgage.

Even at this figure, the oil producer would be taking many risks of losses such as have occurred in the recent past, while the owner of a real estate mortgage would have no risk and his profits at all times would be equal to those of the Venango County oil producer who is selling his oil steadily, year in and year out, at $4.84 per barrel.

URGED LOG KEEPING

At the monthly meeting of the Southwestern Geological Society, an interesting address was given by George B. Stevens, geologist for the Simma Oil Co., in which he stressed the necessity of keeping correct logs.



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DISTRESS GASOLINE HITS CHICAGO

Weather and Contracts Principal Factors. Practically No Spot Market During Week. Mexican Decline Aids Smackover Fuel but Cheap Coal Checks. Kerosene Drops. Neutral Advance Expected. Lubricants Weaker

By Ralph T. Baker

CHICAGO, Feb. 11.—Bad weather broke over the Great Lakes region in earnest last week and as a result shipments of petroleum products were extremely small. Sleet and a heavy snowfall isolated many cities, with the result that many marketers with distress stuff on hand were unable to move it even at reduced prices.

Jobbers who had filled their tanks early in January had carried over a large supply of New Navy into February. The opening of the new month saw them receiving shipments on February contracts, not needed, and which could not be unloaded in many instances because their tanks already were full. The result was that this surplus contract gasoline was resold, considerably under the refiner's price.

In one instance, a refiner called up a jobber to whom he had been shipping gasoline regularly and asked him if he could use a couple of cars. He was surprised to get the reply that the jobber would offer him a car of the refiner's own gasoline at a half-cent reduction from the price the refiner was quoting. As a result, there was practically no spot market during the week. Distress stuff which influenced the market during the latter part of January was caused by material ordered in December coming into this territory to the marketer who could afford to shade the refinery price and still make money. The present flood of distress gasoline in the Chicago area, however, is due largely to the oversupply of gasoline coming on contracts to the jobbers.

The entire situation harks back to the weather which is expected to keep down motoring during the remainder of the month. Most refiners and a number of marketers feel the upturn in motor fuels will follow with the spring demand anticipated about the first of the coming month. They are not so optimistic concerning the future of fuel oils.

Smackover Fuel

Cessation of large imports of Mexican oils has been a boon to dealers in Smackover crude for fuel purposes. Many contracts with large industries calling for Mexican grade fuel are being filled on the Smackover stuff, with the result it has mounted in price. However, there is a large amount available, and the posted prices have not been reflected to the fullest extent in fuel oil.

With a price of $1 for Smackover pipe line oil, the fuel from that territory should be worth from $1.15 to $1.20, according to the consensus of Chicago dealers. The presence of a large amount of Smackover fuel bought ahead has forced the price around Chicago in many cases as low as 90 cents to 95 cents, or less than the posted price in the field. This condition is expected to find a ready remedy and a better market is seen. Most of the fuel from this field now is bringing $1 or more.

Danger is seen by fuel dealers in the huge stocks of stored coal, ready for industrial consumption at low prices. This large supply, said to be equivalent to more than a year's needs, was effective in forcing the miners to abandon their threatened strike recently. As a result the large supply of cheap coal available for industries is expected to mount during the coming months. Oil men feel the price of fuel oil cannot go much higher before industries now using fuel oil will return to coal, with the result that those so doing will use coal for many months or possibly several years, before new conditions bring about higher prices of the mined product. For this reason, many Chicago oil dealers find it hard to make spot sales of fuel oil and sales over a period are even scarcer.

Burner Oil Strong

The burner oil situation is in a relatively strong position at present, with complaints from users over the recent advances. At best, the consumption period of this commodity is not expected to stretch over 30 to 60 days additional, and then the market for gas oil and distillate will fade until the approach of another winter. Burner men and oil salesmen fear return of many burner users to coal, if prospects of oil fuel point to higher prices and coal continues to sell at its present cheap figure. This will throw an additional supply of fuel oil on the market.

A cessation in the demand for both light and heavy fuels is expected to cause a reduction in the prices of these products, declare many students of market conditions who are familiar with the situation in this territory.

More optimism is seen in the situation regarding gasolines. February is always considered a bad month for automotive traffic and as a result, the larger refiners and marketers, while disturbed somewhat by the bad weather, are willing to accept conditions, with the realization that when gasoline purchases start, tanks will be emptied rapidly. The present weak market, with its ready supply of distress stuff for all spot demands, was not unexpected and can be handled nicely by most concerns. At the same time, most men realize there is a limit to all things, particularly tank capacities, and an extended period of snow and sleet in this territory would find refiners forced to get rid of their supplies as quickly as possible.

Even now marketers are voicing the cry that the crude markets have been set up too rapidly, and that the refineries, particularly the smaller independents now paying premiums, should regulate their runs to fit present conditions. Premiums are expected to continue with present runs, however, as several refineries are reported to be charging their stills with storage oil in part.

Protest Price Advance

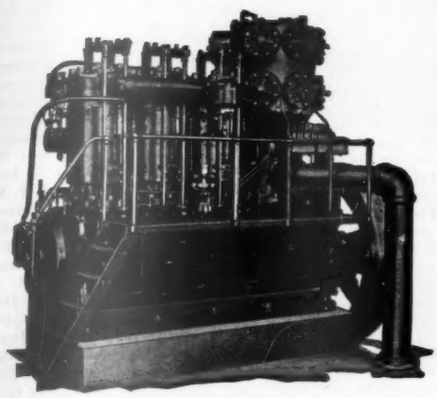
One large marketer took the view that "you can't create a demand by running up prices," in his observations on the recent change in conditions affecting the oil industry. He feels the crude supply will be taken care of, but an oversupply of gasoline may cause grief should the weather continue to make roads impassable and refiners insitst on keeping up present heavy runs.

As was anticipated, refiners attempted to take half of the 2-cent advance in prices announced February 5 by the Standard Oil Co. of Indiana. They had little success and many were forced to mark down their prices after having marked them up. The advance came upon a declining market, due to the weather and the distress gasoline available. At present, there is a considerable amount of New Navy available at 11½ cents. Refiners, as a rule, are asking 12 cents with some, sold up over a period, posting prices up to 13 cents. The bulk of the stuff from refiner to marketer or jobber is priced at 12 cents.

The higher gravities were considerably easier with sufficient amounts available to supply all demand quickly. Rumors of new export orders contributed to stiffen prices which showed some signs of softening. As a rule, these products and naphthas also were affected by the

(Continued on Page 120)

The Reeves Vertical Gas Engine—Compressors For Gas Booster Plants



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Engine-Compressor Sizes:
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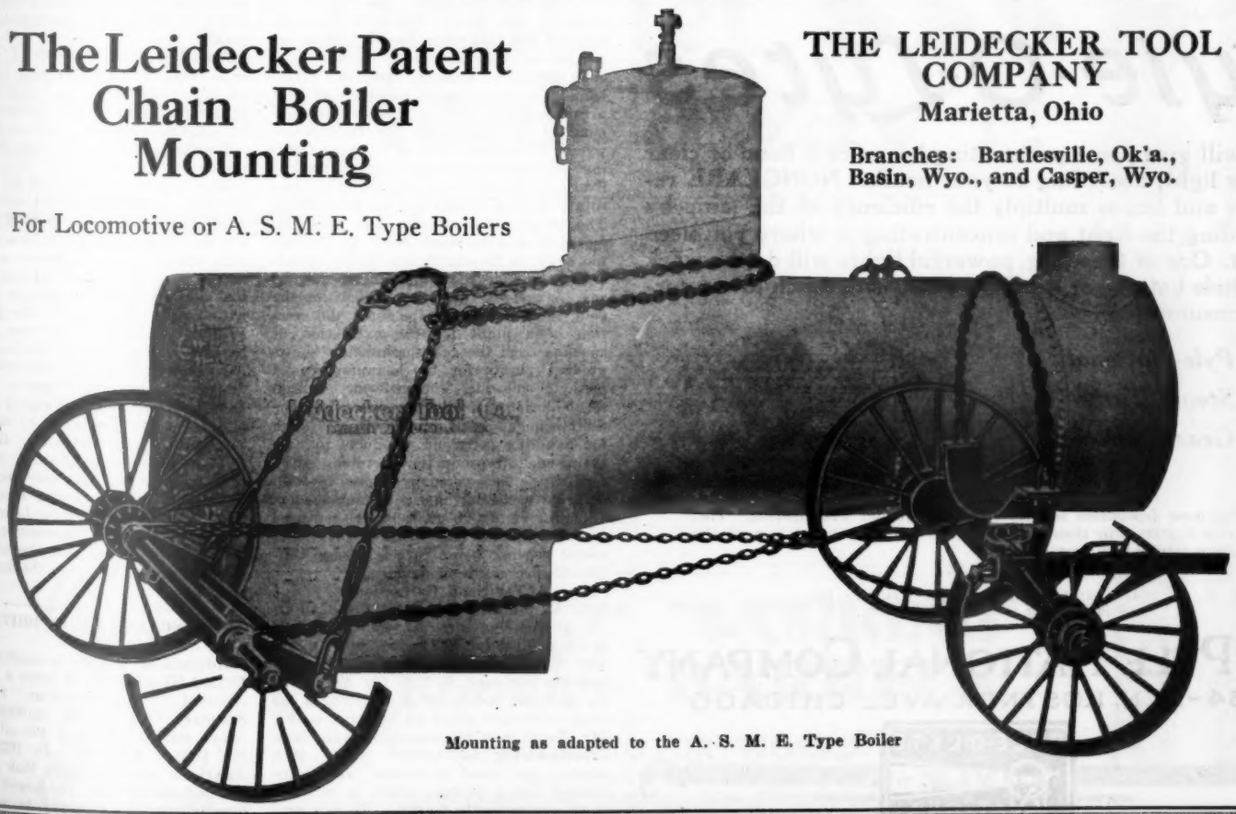

Mounting as adapted to the A. S. M. E. Type Boiler

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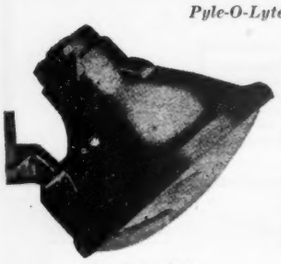

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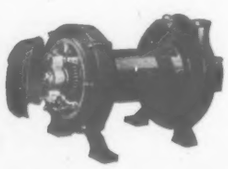

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EASTERN FIELDS

(Continued from Page 52)

Grimy farm and shut down. In the same Township, the Marshall Oil & Gas Co. started to drill on the John Barger farm. The New Freeport Oil & Gas Co. is fishing on the John Minor farm.

In Richill Township, the Carnegie Natural Gas Co. started to drill on the W. H. Hughes farm. In Aleppo Township, the Cliff Oil & Gas Co. made a location on the J. W. Anderson farm. In the same Township, Oscar Orndoff has a rig up on the Frank Galletine farm. In Perry Township, the Carnegie Natural Gas Co. started to drill on the Leasure Cowell farm. In Morris Township, the Natural Gas Co. of West Virginia started to drill on the T. F. Rutan farm.

Near Terra Alta, Portland district, Preston County, West Virginia, the Hope Natural Gas Co. was successful in straightening the hole at its proposed deep test on the Jacob Gordon farm. Drilling has been resumed and it is down about 1,300 feet. The casing has been pulled at the same company's deep test on the Volcanic tract in Walker district, Wood County. At one time they thought of giving it a test in the Gordon sand, but this has been abandoned.

On Chestnut Ridge, near Ligonier, Westmoreland County, the Peoples' Natural Gas Co. cemented to the bottom of the hole its second test on the Booth-Flinn property. It expects to start drilling again next week. The same company is still drilling in cement, with several hundred feet to go, at the test on the Seger Brothers' farm.

On the summit of Laurel Ridge, 8½ miles southwest of Johnstown, near a point where Somerset, Cambria and Westmoreland Counties join, the United States Research Co., of Philadelphia, including some Johnstown capitalists, has just got nicely started at its deep tests. When last heard from it was drilling at about 500 feet. These four wells are the only deep tests now drilling in the Eastern fields.

CANADIAN FIELDS

(Continued from Page 56)

cropping near Kettle Point, in Lambton County, but this shale has so low an oil content as to be practically valueless.

In western Canada, British Petroleums, Ltd., is reported going ahead with arrangements for the further development of its holdings in the Irma-Wainwright Field, east central Alberta. Drilling equipment is being secured for delivery in March; it is reported that two rotary drilling outfits will be brought in. The company's head office will be transferred from Vancouver, B. C. to Edmonton early in March. Plans under consideration include the supplying of natural gas to various towns convenient to the field, the building of pipe lines, the erection of a plant for the extraction of gasoline from the gas, the erection of by-product plants for the manufacture of methyl chloride, chloroform, carbon tetrachloride and other products, and the establishment of a distributing system for handling petroleum products in case the crude oil production develops satisfactorily. The company plans to drill six new wells during the coming season. Upwards of 25,000 acres has been leased recently in the Irma-Wainwright Field, recent leasing being largely along Buffalo Coulee north of Irma.

Tar Sand Extraction

E. E. Smith, representing the California engineering firm of Smith, Emery & Co. and George S. Hoxie of the Alberta Tar Sands Products Co., recently visited the tar sand area fo the Athabaska to study the prospects of operating a tar sand extraction plant all the year round. Mr. Smith and his associates have been experimenting for several years with various tar sand processes, and have worked out a process which is believed to be commercially feasible. In this process the extraction of the crude oil is a secondary consideration, the primary purpose being to utilize the tar sands as road building material. After the sands are mined, the material is compressed into paving blocks, the lower series containing a considerable percentage of crushed rock while in the upper layer there is a larger percentage of bitumen. If a plant is erected it will be on an extensive scale, with an initial capacity of 200 tons a day, but further development depends on whether or not a market can be secured in Alberta for the product.

In the Okotoks Field, southwest of Calgary, the McLeod Oil Co., Section 1-3-3w5, is reported drilling at 705 feet on a new test, near the old Alberta Petroleum Consolidated No. 2 producer. Production is looked for at approximately 2,500 feet.

In Sweetgrass district, southern Alberta, it is reported that interests associated with the Dute-Shell corporation have secured options on the holdings and unfinished wells of the J. F. M. Moodie syndicate. The wells concerned are the Anglo-Indian, Section 14-1-15w4, the Moodie-Dundas, Section 4-1-15w4; Moodie-Hall, Section 11-1-15w4, and Moodie-Somerville, Section 2-1-15w4. It is also reported that the Mutual Oil Co. is planning to carry on some development next spring in southern Alberta, and to build a large refinery at some point on the border to handle Montana crude. At Edmonton the Alberta Oil Refiners, Ltd. has secured a 40-acre site and will start early in the spring the construction of a refinery with an initial capacity of 500 bbls. a day. The company is capitalized at $165,000 with head office at Edmonton, the directors being: President, John I. Mercier; secretary-treasurer, F. A. McCord, and John P. Glefer, all of Edmonton. Crude will be purchased from the Dakota-Montana Oil Co.

Alberta Refineries

At Coutts, Alta., the Alberta Refining Co. is laying the foundations for a refining plant, which is expected to be completed in March. The Standard Refining Co. plant at Lethbridge, Alta., is reported complete, and will run on crude from the Kevin-Sunburst Field. C. W. Stone of Miles City will superintend the plant.

The Red Deer-Kevin Oil & Gas Co. capitalized at $150,000 with head office at Red Deer, Alta., has been organized to develop holdings in the Montana Field. The J. Osage Oil Co., capitalized at $50,000 with head office at Calgary, will also operate in Montana.

The appellate division of the supreme court of Alberta, in a judgment written by Mr. Justice Stuart with Mr. Justice Clarke concurring and Mr. Justice Hyndman dissenting, has allowed an appeal in the case of Shepperd against Livingston and dismissed the action of Shepperd with costs. According to the judgment, William Livingston hired one, Norman, to drill an oil well for him in southern Alberta, and Norman hired a drilling outfit from the plaintiff, Shepperd. Norman agreed to pay Shepperd and to assign to him the moneys payable to him under his contract with Livingston. Before the well was completed Norman threw up himself. The appellate court decided that the work and Livingston completed it there was no liability on Livingston to pay the balance of the contract price to Shepperd as it had cost him more than this balance to complete the drilling operations.

GASOLINE UP IN BRITAIN

Advance of 8 cents in gasoline in the United Kingdom to 44 cents a gallon is reported. Anglo-American Oil Co., Standard Oil's British marketing company, markets most of the oil sold in the United Kingdom. In 1923 Anglo-American imported more than 112,000,000 gallons gasoline, the largest business handled by the company in any year. Its business in fuel oil and other oil products was also at a record in 1923.

FRANKLIN

VALVELESS GAS ENGINES

Have minimum parts. Require fewer adjustments. Eliminate valve grinding. Construction keeps out all sand and grit. Saves 75% in lubrication cost over other type engines.

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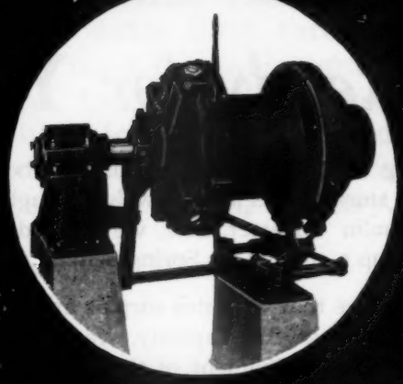

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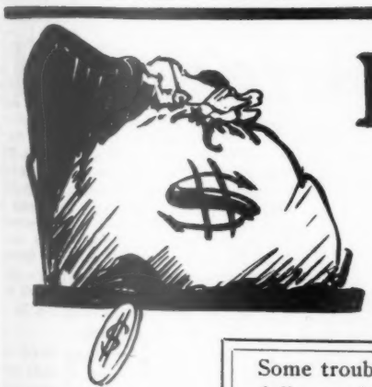

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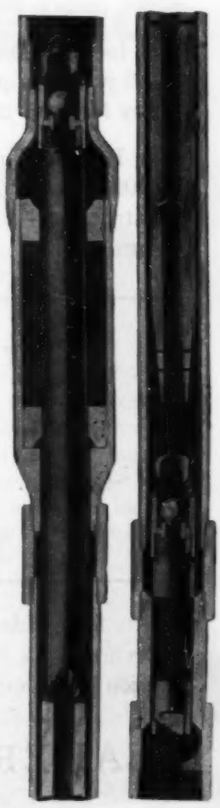

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Some troubles, of course, are unavoidable but it is like taking a handful of dollars and scattering them before the wind to allow preventable troubles to occur. The reason for the "TEX" BARREL'S very existence is to pump oil with the least amount of trouble. Look into the "TEX" and save money for yourself.

Will pump floating sand
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Will not cut oil
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Cuts operating expense
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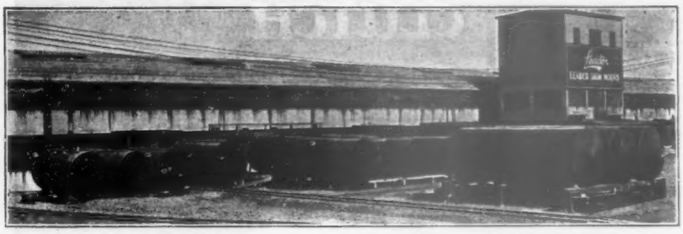

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We believe that with this surplus and by working our factory at full capacity, we will be able to make prompt fulfillment of the demand which is starting big.

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LEADER IRON WORKS

Decatur, Illinois

CALIFORNIA FIELDS

(Continued from Page 50)

leum Co. mudded off the oil sand in its No. 1 B. & R., an offset. The Gilmore Petroleum Co. is not going to take any chance of mudding off the oil sand in its well No. 3 and will replace the present rotary equipment with cable tools.

This will be the first well finished in this field with cable tools and the outcome will undoubtedly be watched with interest.

The Shell Oil Co. is pushing forward the development of its Kettler property and has five wells drilling at various stages. This lease adjoins the Chanslor-Canfield Midway Oil Co.'s Kettler property on the east and the present program of the Shell is due to some extent to the drilling of line wells by the former, which necessitates the drilling of offsets by the latter. The Standard Oil Co. completed well No. 1 on its Kettler lease, adjoining the Shell Oil Co.'s Kettler property on the south and, although the well was not actually put on production, indications point to about a 200-bbl. well. The Standard's No. 1 Kettler, an offset to the Shell Oil Co.'s No. 1 Kettler, drilling ahead at 3,400 feet, was finished with an 8¼-inch oil string langed on bottom at 3,840 feet. The completion of the Standard's No. 1 Kettler, in addition to proving up the Shell's Kettler lease of approximately 50 acres, practically establishes the limits of the field at this point.

Other Companies Active

On its Marble property owned in fee, the Standard is drilling three wells and has erected a rig for the fourth, while on its Marble property, held under lease, the company has spudded in well No. 1 and is making preparations to start Nos. 2 and 3. The Universal Consolidated Oil Co. started off the week with two new wells to its credit, but one of them sanded up soon after being brought in. The company's No. 1 Jones, southwest of the Federal Drilling Co.'s No. 1 Gerner, was put on a production test after being drilled to 3,800 feet and later plugged back to 3,774 feet and registered an initial output of 250 bbls. It sanded up the day following its completion, however, and has not yet been returned to production. The company was successful in keeping its No. 8 Moore on production, finished at about the same time that No. 1 Jones was put on a test. The former, drilled to 3,775 feet and finished with an 8¼-inch oil string, is doing 350 bbls. a day of clean 24.3 gravity oil.

The Beaver States Oil Co.'s No. 2 was completed in record time and made 450 bbls. of 20.1 gravity oil, which showed a cut of 5 per cent. It was drilled to 3,787 feet and finished with a 6¼-inch liner. The cut of 5 per cent is quite large, but may possibly be reduced after the well has flowed for a few days. The Huntington Signal Oil Co.'s No. 1 Barto also showed a rather large cut upon completion but this has been reduced to 3 per cent. Number 1 Barto, a 325-bbl. well, was drilled to 3,767 feet and finished with a 4¾-inch oil string landed on the bottom. The oil, flowing through a ½-inch bean, under a pressure of 200 pounds, tests 23.7 degrees.

The Julian Petroleum Corporation's No. 2 Cook began flowing by heads during the latter part of the week at the rate of 650 bbls. a day, but the production was accompanied by a good deal of sand and there is still some question as to whether the well will sand up or clean out. The hole is 3,810 feet deep and the oil is of a rather low quality, testing only 18.9 degrees. The company's No. 1 Splitzdozer refused to flow after being drilled to 3,852 feet and preparations are being made to install a pump. The company's No. 6, drilled to 3,762 feet, would not pump under ordinary conditions and a pump is also being installed in this well in the hope of securing production.

The James F. Nugent Oil Co.'s well No. 1, drilled to 3,770 feet and finished with a 6¼-inch liner, started off flowing 800 bbls. a day of 20.7 gravity oil upon completion and gives promise of maintaining this output for some time. It is flowing through a ¾-inch bean with clock-like regularity, under a pressure of 200 pounds.

There were two 400-bbl. wells listed among the weekly completions, one of them standing to the credit of the Sentinel Oil Co., and the other to the Van Allen Oil Co. The Sentinel's No. 1 Hunter was drilled by E. J. Miley to 3,792 feet and finished with a 6¼-inch oil string landed on bottom, while the Van Allen Oil Co.'s well No. 3 was completed by the 5-0 Drilling Co. at 3,759 feet and finished with a 6¼-inch liner. The output from the former, flowing through a ½-inch bean under a pressure of 195 pounds, is clean and tests 22.8 degrees, while the production of the latter tests 21.6 degrees and shows a cut of ½ per cent. The Arline Oil Co.'s well No. 1, drilled by the Empire Drilling Co. to 3,796 feet, was one of the smallest producers brought in during the week. It registered a maximum initial output of 275 bbls., the oil testing 23.8 degrees, flowing through a ¼-inch bean under a pressure of 230 pounds.

George F. Getty added another well, No. 9 Torrance, to his list of producers during the past few days and, although it was only of moderate proportions, the oil was fairly clean. It was drilled to 3,790 feet and put on production doing 220 barrels a day of 24.6 gravity oil. The Fortuna Oil Co.'s No. 1 Clarke followed Getty's completion within a short time and, although it was not drilled quite as deep, it registered a much larger output. Number 1 Clarke was finished at 3,750 feet and listed as a 700-bbl. producer of clean 26.2 gravity oil. In addition to the above completions, there were several wells completed being prepared for production and they will probably be found in the completion list for the coming week. Jennings & Kinsey completed their No. 1 Bailes at 3,770 feet and are bailing what will probably make a good producer. The McKeon Drilling Co. also completed a well, No. 1 Lyman, at 3,784 feet, and bailing and swabbing operations in progress during the past few days will probably result in a small completion during the coming week.

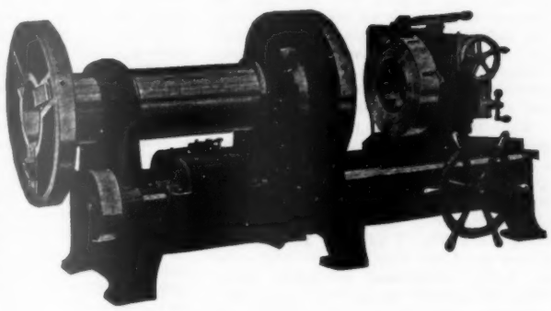
The Petroleum Securities, a Doheny concern, completed No. 9 Marble at 3,780 feet and ran in an 8-inch oil string in preparation for a production test. The company's Nos. 7, 8, and 10, on this same lease should also be early completions. No. 7 Standing cemented at 3,515, No. 8 at 3,570 feet and No. 4 at 3,445 feet. The Superior Oil Co. has two wells which look exceptionally good. No. 4 at 3,800 feet and No. 13 at 3,900 feet. The former is flowing about 200 bbls. a day between the tubing and the 10-inch casing, while No. 13, although not actually flowing, looks promising. The company's next completion will undoubtedly be well No. 4, followed some time later by No. 3.

Long Beach

Field operations at Long Beach resulted in the completion of eight new wells, although only one of them was of unusual proportions. The most important completion was the Shell Oil Co.'s No. 11 Alamitos, which came in flowing 5,000 bbls. a day. This new producer is located on the same property upon which the original discovery well was drilled and is credited with having the largest number of deep producers. This, the best completion listed for some time, was drilled to 5,050 feet and contains 3,977 feet of 3-inch tubing and 1,002 feet of 5 3/16-inch liner. The oil, which tests 26.6 degrees and shows a cut of 1 per cent, is flowing through a 1-inch bean under a pressure of 950 pounds. This well is the largest producer in the field at the present time and one of the largest ever completed under control in the southeast section of the field.

As the result of the completion of No. 11 Alamitos, an offset to the Pan American's No. 2 Anderson doing about 3,500 bbls. a day, three new wells were started on their lease, Nos. 15, 16 and 19 and locations were spotted for Nos. 17 and 18. The Shell also completed No. 10 Alamitos but the initial production was less than one-tenth of that of No. 11.

B & K Tangent Pipe Die Head



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EDWARDSVILLE, ILL.

Fairbanks-Morse "Y" Oil Engines

CUT YOUR POWER COST

and at the same time increase the efficiency and dependability of your plant. "Y" Engine owners are demonstrating this every day right in your own vicinity. Ask to see their plant in operation—then inquire as to the savings they have effected in fuel cost, consumption, time and attention.

FAIRBANKS, MORSE & CO.
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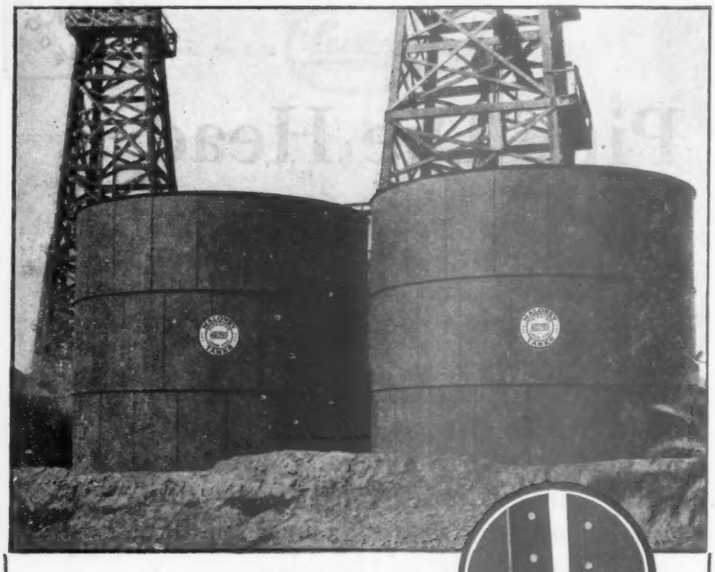
Three 150 H. P. Fairbanks-Morse Type "Y" Oil Engines direct connected to 4½x18 Power Pumps are used for pipe line pumping.



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MALONEY

This well was drilled to 4,352 feet and registered an initial daily production of 450 barrels of clean 21.6 gravity oil. It did not have sufficient kick to flow and it was necessary, therefore, to place it on the beam. The Shell finished up the week by completing No. 2 Bixby, a new well, and putting No. 5 Pickler on production after cleaning it out. The former, drilled to 4,435 feet, was good for only 210 bbls. a day of 20.1 gravity oil. This small well was not totally unexpected as the Bixby lease is out on the extreme limits of the field. No. 5 Pickler proved to be a good well and came in flowing at the rate of 960 bbls. a day. No 24-hour test was made on this well as the production was immediately turned into storage. A 12-hour test was sufficient to satisfy the field men that the well was in good shape.

The Petroleum Midway (California Petroleum) put the greatest number of new wells on production but their combined output was less than that of the Shell's No. 11 Alamitos. On its Davidson Community lease the company finished wells Nos. 3 and 4. The former, drilled to 4,800 feet was credited with an initial production of 1,150 bbls., while the latter, finished at 4,763 feet, responded with a flow of a little less than 100 bbls. a day. The company also finished two wells on its Fields lease, Nos. 3-A and 4, but their aggregate production was only 300 bbls. daily. The former, No. 3-A, was drilled to 4,561 feet and put 100 bbls. into storage during the first 24-hour production test, while the latter, No. 4, was finished at 4,600 feet and put 200 bbls. into storage during a like period. The oil from both tests approximately 26.3 degrees. The company's fifth completion was No. 1-A Perrin, which was drilled to 5,000 feet and brought in doing 400 bbls. a day. This deep well, producing clean 25.8 gravity oil, is flowing through a ½-inch bean under a pressure of 450 pounds. The pressure is unusually high and, unless it declines very substantially, it is believed that the output of the well will show an increase.

Best Wells Recompletions

Except for the Shell Oil Co.'s No. 11 Alamitos, the best wells put on production were recompletions, those brought in after being redrilled and deepened from the upper to the lower sands. The largest of these rejuvenated wells was the Marine Oil Co.'s No. 18, which was deepened to 5,244 feet and returned to production doing 2,600 bbls. It was finished with a 4½-inch oil string landed on bottom and the oil, which tests 30.1 degrees and shows a cut of 2½ per cent, is flowing through two 1-inch beans under a pressure of 100 pounds. Havenstrike & Baker's well No. 2, formerly the Transport Oil Co.'s well No. 3, also a recompletion, was slightly smaller than the Marine's No. 18 and is credited with an intial output of 1,850 bbls. This well, redrilled and deepened to 5,036 feet and finished with a 4½-inch liner, is flowing through a 1-inch bean under a pressure of 400 pounds, the oil testing 26.5 degrees and showing a cut of 2 per cent.

Santa Fe Springs

The biggest surprise of the week at Santa Fe Springs was the completion of No. 1 A. O. Houghton by the Standard Oil Co. as a 1,350-bbl. producer. This new well, located in the extreme western part of the field, was drilled to 4,668 feet and a high initial production was not looked for because of its position on the structure. The oil, which is clean and tests 34.8 degrees, is flowing through a ⅞-inch bean under a pressure of 100 pounds. The pressure is unusually low for such a high production and indicates that the well will undoubtedly settle within a short time. The Union Oil Co. was successful in putting two wells on production, both of them on its Farwell lease. The larger of the two, No. 9, was drilled to 4,675 feet and responded with an initial production of 1,250 bbls. a day of 35.2 gravity oil. The output from this new well, which is flowing through a ¾-inch bean under a pressure of 500 pounds, is clean. No. 6 Farwell, the company's other completion, was finished at 4,600 feet and is credited with a daily output of 750 bbls., the oil being clean and testing 34.1 degrees. The Union finished redrilling and deepening No. 1 Bell, the discovery well, to 4,670 feet and when put on a test it flowed about 25 bbls. and stopped. It has been on the pump for the past two days but the company has not as yet been successful in returning it to production. The Petroleum Midway Co. returned No. 2 Standlee to production after cleaning it out and completed well No. 7 on Mattern lease No. 2. Both of them were unusually small, No. 2 Standlee doing 15 bbls. a day of 35.1 gravity oil from 4,695 feet, while No. 7 Mattern, a new well, is pumping 20 bbls. a day of 24.1 gravity oil from 4,600 feet. The General Petroleum Co. cleaned out two of its producers, No. 1 Hill Midway and No. 77-B Santa Fe, and returned them to production during the latter part of the week. No. 1 Hill Midway is credited with a daily production of 120 bbls., while No. 77-B Santa Fe is doing a little better than 100 bbls.

Huntington Beach

There was practically no change in either the output or the amount of drilling at Huntington during the past week. Water continues to bother operators, especially those in the northern part of the field. The water problem has become so acute in the deep sands that many former deep producers are being plugged back and put on the beam, a small clean pumper being preferable to a slightly larger flowing well making dirty oil. George F. Getty's No. 3 was probably the best well put on production both in quality and quantity. Drilled to 3,800 feet and finished with a 6¼-inch oil string, it came in doing 225 bbls. of clean 26.9 gravity oil. The Black Cat Oil Co. successfully placed its well No. 1 on production from the upper sands after plugging back from 2,700 feet to 2,610 feet. The initial output of 200 bbls. showed a cut of 10 per cent water. The Sequoia Oil Co. also put a well on production after plugging back. Its No. 1 was originally drilled to 3,800 feet but later plugged back to 2,800 feet on the beam it is pumping 50 bbls. a day of 21.2 gravity oil.

Field Operations

Oil field operations reported to the State Oil and Gas Supervisor show 31 new wells started, as compared with 29 during the previous week, a total for the current year to date of 151, as compared with 167 at the same date last year. Permits were issued for the following new wells:

Torrance

Location, company and well—
23-4-14 Bear Oil Co., 1.
23-4-14 Keefe Risden Co., 2.
Pan American Pet. Co.—
24-4-14 Thomas, 1.
24-4-14 Thomas, 2.
24-4-14 Knape, 1.
Pet. Midway Co., Ltd.—
23-4-14 Young One, 2.
23-4-14 Deitrick, 3.
Sentinel Oil Co.—
24-4-14 Joughin, 3.
Shell Co.—
23-4-14 Kettler, 3.
23-4-14 Kettler, 4.
23-4-14 Kettler, 5.
Standard Oil Co.—
15-4-14 Marble Fee, 1.
15-4-14 Marble Fee, 2.
15-4-14 Marble Fee, 3.
13-4-14 Domingues, 2.
Superior Oil Co.—
24-4-14 Torrance, 17.
24-4-14 Torrance, 16.

Long Beach

24-4-13 R. E. Ibbetson Drilling Co., 1.
Pet. Midway Co., Ltd.—
29-4-12 Brown, 2.
W. R. Ramsey—
29-4-12 Flower State, 1.

Compton

Union Oil Co.—
33-3-13 Callender, 2.
33-3-13 Hellman, 2.

Bandini

Oak Ridge Oil Co.—
28-2-12 Gage, 1.
22-2-12 K-B, 1.

Richfield

Pet. Midway Co., Ltd.—
29-3- 9 Yarnell, 17.

Midway

25-31-22 C. C. M. O. Co., 29.
9-32-23 C. C. M. O. Co., 35.

TESTS AND SPECIFICATIONS FOR ROAD OIL

(Continued from Page 36)

sure of consistency in gauging asphaltic products is necessary. With road binders, paving asphalts and intermediate products, penetration is the universally adopted measure of consistency. An arbitrary scale and instrument is used. Standard instrument universally used is the Dow penetrometer. The melting point of hard asphalts, used in paving is of importance in gauging the fluidity of the substance and gauging its probable stability in hot countries and during hot summer weather.

The solubility of the substance in carbon disulphide is an indication of purity. As a rule all asphaltic products of petroleum origin, prepared artificially are very pure, running as high as 99.5 per cent pure, soluble in carbon disulphide, leaving a residue of .5 per cent insoluble. Native asphalts show a much higher percentage of insoluble material. A comparison of the amounts soluble in carbon disulphide and carbon tetrachloride is taken as an indication of decomposition products. This test is used as a guide to indicate whether still temperatures have been too high and whether an insufficient amount of steam was used in the manufacture of the product causing overheating of the material next the shell of the still.

Permanency of Material

Study of the loss at 325 degrees Fahrenheit and the penetration of the residue gives an indication of how permanent the material would be when the finished pavement has been subjected to weather conditions. A native or hard asphalt softened with a volatile oil would show a high volatile loss and a low penetration of the residue, while if a comparatively non-volatile flux were used, or if a straight petroleum asphalt were being tested, the volatile matter would be low and the penetration of the residue not excessively less than the penetration of the original material. Some reduction in penetration is always allowable in heating, however.

Specific gravity gives information as to the source of the materials and the mode of preparation, mainly. It is of little benefit in gauging the inherent quality of the material. Ductility is taken as an indication of the ability of the asphalt to bind cement road material together. Highly ductile materials will make better binders for the other constituents and will be less liable to fracture.

Nowadays, asphalt makers often are obliged to meet numerous additional specifications and pass a variety of additional tests frequently which have no particular bearing on the quality of the material and often do not permit the accuracy implied by the limitations called for. Among the additional items for consideration are the following: Fixed carbon, solubility in light naphtha, paraffin scale and asphalt content. Fixed carbon content is in part specific to the locality from which the asphalt comes, and hence gives no definite idea of quality unless the source of the material is known. The same is true concerning solubility in light naphtha. Paraffin scale is present in asphaltic products from lighter crude oils and has not been shown to be injurious.

Methods of Testing

The method of securing asphalt content of the substance consists in heating a sample to a temperature below that at which decomposition would take place, until the material, through evaporation, has the penetration of commercial asphalt. Different variations of this generalized test have been practiced without arriving at any thoroughly satisfactory test which can be applied to asphaltic products from all sources.

In the category of road oils are found three general classes, in reference to characteristics as follows: Dust preventives, cold application oils and hot application oils. The dust preventives contain some asphalt but are sufficiently liquid to be applied cold and penetrate deeply. The cold application oils are similar, but contain more asphalt and are best distributed through atomization. The hot application oils are still heavier and should be applied at approximately 250 degrees Fahrenheit. They form a hard crust or carpet on the surface of the roadway. The manufacturer of road oils is guided largely by viscosity of his material, as the more liquid asphaltic materials pass out of the range of the penetration instruments and scales. A Saybolt Universal or Engler viscosimeters are ordinarily used in gauging road oils. Specific gravity is taken, but as in the case of asphalt, this means but little unless the origin of the oil is known. The flash point is used to show the maximum temperature to which the oil can be heated with safety. Determination of the loss at 325 degrees Fahrenheit and the consistency of the residue is often valuable in road oil work as is also the determining of the solubility in carbon disulphide and light naphtha. At times other arbitrary specifications are forced upon manufacturers.

Drafting Specifications

It is possible for specifications to be drawn which will be impossible for certain manufacturers of road oils to meet under ordinary conditions. Broad, general specifications, gauged to admit good materials from every source, will be found more beneficial to the public at large and the manufacturers as well, than specifications which favor road oils or asphalts from any one particular source, Mr. Gillum believes.

To get around the exclusion of good asphalt or road oils from any one district and to make the specifications explicit, the State of Illinois divison of highways has adopted three sets of specifications for road oils. The first (E-1) admits Mexican and similar asphaltic base petroleum residuums and semi-asphaltic base petroleums when refined by certain processes, so as to yield residuums meeting with the specifications. The second (E-2) admits petroleum residuums refined from petroleum from Texas, Louisiana, Oklahoma, Kansas, Illinois and other semi-asphaltic petroleums and oils meeting the E-1 requirements. The third (E-3) includes either asphaltic base or semi-asphaltic base petroleum residuums of a heavier grade than the E-1 or E-2 specifications.

The E-1 specifications for earth roads follow: (1) Specific gravity, 25°-25° C. (77°-77° F.), not less than 0.930. (2) Specific viscosity at 60° C. (140° F.), 8.0 to 16.0. (3) Loss at 163° C. (325° F.), 5 hours, not more than 20 per cent. (4) Total bitumen, not less than 99.5 per cent. (5) Per cent of total bitumen insoluble in 86° B. Naphtha, not less than 8.5 per cent. (6) Flash point, not less than 80° C. (175° F.) (7) Per cent of residue at 100 penetration, not less than 50. The E-2 specifications omit consideration of the third and fifth factors in E-1 and permit a specific gravity of not less than 0.910. In both cases the road oil is expected to be homogeneous and free from water. The E-3 specifications require a specific gravity of not less than 0.930, viscosity fo 16.1 to 40.0, total bitumen not less than 99.5 per cent and per cent of residue at 100 penetration of 60 to 70 per cent.

GASOLINE TAX RETURN

LOS ANGELES, Cal., Feb. 9.—The State of California's income for the last quarter from gasoline tax totaled $2,991,854, according to the State Board of Equalization. Based on an average of 15 cents a gallon for the period, expenditure for motor fuel was $22,538,908, or approximately $89,755,628 for the year. Two-cent tax was paid on 149,592,713 gallons. Number of automobiles in the State, as compiled in the latter part of 1923 by the License Bureau, was estimated at 1,162,377.

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ADVANTAGES OF OIL AS RAILROAD FUEL

(Continued from Page 38)

take place in a very limited time, therefore it is realized that large furnace volume is essential to the burning of fuel oil. While the dimensions are of minor importance to the volume, it is evident that a flameway must be provided of sufficient length to prevent unconsumed particles of fuel striking the flues.

With oil fuel the productivity of the locomotive is increased, as either the tonnage or speed are increased, due to the fact that with oil the maximum boiler capacity is available at all times and the engineer does not have to work the engine below the capacity of the man with a scoop shovel. The tonnage increase is generally accepted as 15 per cent. Less time is required to turn an engine, as there are no fires to knock or flues to bore, which increases its productive time in a 24-hour period. Hoister service is reduced and ash pit service is practically dispensed with.

Maintenance Favors Oil

Maintenance favors the oil-burning locomotive, as there are no grates or grate-shaking apparatus to maintain. Brick arches and arch tubes are dispensed with. The maintenance of the stoker is eliminated and the draft arrangement does not have to be altered for different grades of fuel as with coal. Oil-burning locomotives require front end netting only in certain localities during short periods of the year, which reduces this item of maintenance. While the life of a firebox and set of flues may be slightly shorter with oil, it is not considered that the firebox troubles are any greater in the oil-burning locomotives than in the coal-burners in proportion to the work performed.

The firebox temperature with oil averages about 500 or 600 degrees higher than with coal, but this will not materially affect maintenance if the firepan is properly bricked and the flame is not allowed to directly impinge against the firebox sheets, or the burner action is not such that it produces a blow pipe action with resultant localization of high temperatures. Furthermore, the flash wall should be built thick enough to protect fire-door sheets and as many lap joints as possible should be eliminated in the firebox construction.

The cost of handling oil is cheaper than the cost of handling coal, as it is economically distributed through pipe lines, and the switching charges are less at fueling stations. The necessity of maintaining separate bunkers for different kinds of coal is eliminated as fuel oil is practically uniform in character. The expense of complicated conveyors, hoists and other elaborate devices for handling coal is dispensed with. There is a reduction in the number of fueling stations due to the increased fuel capacity of the oil-burning locomtive. In some localities oil pipe lines parallel the railroads. In such cases the cost of transporting railway fuel is greatly reduced and distribution is simplified.

Fuel oil is not subject to spontaneous combustion—coal is. Oil, when stored, does not lose its calorific value as does coal, nor are there any difficulties arising from disintegration, such as may be found when coal is stored.

Accounting Is Simplified

Fuel accounting is simplified, as with oil there are no losses from fuel falling from cars and tenders en route, and there is more accuracy in fuel measurements with oil. This feature enables the compiling of accurate individual performance sheets of engineers, firemen and engines, which is an incentive to the economical use of fuel.

With oil fuel there is greater cleanliness, as there is a reduction in the amount of smoke, freedom from dust, ashes and cinders. This feature is of great value around large city terminals and is an asset to passenger service.

It is easier to maintain a steady steam pressure with smaller losses at the pop, and the intensity of the fire can be almost instantaneously regulated to meet load fluctuations. From a safe operating standpoint, it permits the fireman at all times to be in a position to observe signal indications and operating rules and check the engineer against any oversight. The fire hazard is greatly reduced, as there are fewer incandescent particles passing from the stack with an oil-burner.

Most all the advantages of oil as a fuel in locomotive practice apply equally well in railway stationary plants. The combustion is more perfect as excess air can be reduced to a minimum; the furnace temperature may be kept practically constant as the furnace doors need not be opened for cleaning or working the fires, and smoke may be eliminated with consequent cleanliness of heating surfaces, which improves the efficiency of the plant.

The advantages in favor of burning fuel oil are so numerous that it might seem that the railroads not burning oil were being inefficiently operated, but such a conclusion would not be justified in view of the fact that there is not sufficient oil produced in this country to operate all the railroads but for a short period of the year. If all the coal burning railroads were to convert their locomotives to oil burners it would require over 400,000,000 bbls. annually in addition to the 44,000,000 now being used; a total of approximately 444,000,000 bbls. It is evident from these figures that fuel oil cannot replace coal as a locomotive fuel with the present production except to a limited extent where conditions are favorable.

WHAT WILDCATTER HAS DONE IN MONTANA AREA

(Continued from Page 38)

well on the northwest flank and another on the southwest flank also got water but in much heavier volume.

8 Failures on Duck Creek Anticline

The Duck Creek anticline in Townships 2 and 3s and Ranges 24 and 25e, Yellowstone County, which was looked upon with great favor, received eight tests, all failures. Several of these penetrated the Quadrant. Among the companies drilling here was the Carter Oil Co. The Empire Gas & Fuel Co. took a flyer at Section 14-7s-22e, drilling two tests, one to 1,470 feet and the other to 4,700 feet. The latter is Montana's deepest hole and was finished in the Colorado shales. The Prairie Oil & Gas Co. drilled to 2,500 feet in Section 24-6s-18e, Wheatland County. This locality had been thoroughly tested in what may be called the shallow sands. The Frontier sands were not encountered but if a 4,700-foot hole can't find them it is likely to discourage further search.

There are many structures but of doubtful value in the counties of Musselshell, Fergus, Judith Basin, Golden and Wheatland north of Township 8n and east of Range 15e. The Cat Creek Field is the outstanding field in this district.

The Ragged Point structure is in Township 11n, Ranges 29 and 30e, Musselshell County, and upon it the Ohio Oil Co. drilled to 2,354 feet, testing the Kootenai sand. Two sands were found, the lower carrying water. This test is not considered sufficient in the light of knowledge gained subsequently. Three holes were drilled on Big Wall Dome and of these two failed to pass the Colorado shales. The Ohio Oil Co. drilled the third and finished at 2,220 feet. It is believed now that the hole was abandoned two feet above the Kootenai sand and that the water found came from the Dakota and not the Kootenai, as was at the time supposed. However, other operations nearby on more favorable looking structures were dry after a thorough test. The Ohio company drilled another hole in Section 24-10n-26e to 3,000 feet. All it found was water in the Quadrant from 2,985 to 3,050 feet.

Devil's Basin was given a great play. Eighteen tests ranging from 375 feet deep to 2,031 feet deep were drilled, the deepest finishing in the Madison. The Devil's Basin centers in Township 11n, Range 28e, in northern Musselshell County. In Section 24-11n-24e, a small oil well was developed at 1,175 feet in one of the Quadrant sands and in Section 25-11n-24e another small well was developed at 1,270 feet. This pair of producers are good for 25 bbls. a day of 23 gravity oil of asphalt base and with a 7 per cent gasoline content.

Woman's Pocket Was Empty

Woman's Pocket Dome in Townships 7 and 8n and Ranges 20 and 21e, Golden Valley County, has had six tests with no commercial results. One well tested the Kootenai, three the Quadrant and one the Madison. The latter developed an enormous volume of water in the lower levels with gas at 1,460 feet and an oil showing at 1,585 feet. The deepest oil showing was at 2,135 feet, in the Quadrant, but there were showings in the Kootenai and Morrison sands. The shallower wells all showed a large quantity of water.

The Flat Willow anticline, of which much has been said, traverses Township 24n through Ranges 25 to 29e, inclusive, in Phillips County. Charles Whaley and others tested the Ellis sand on the west end, drilling to 2,000 feet, while the Kootenai sand was penttrated to a depth of 2,270 feet on the east end. No oil was found.

The Black Hawk Oil Co. is drilling a mystery in Section 21-14n-28e and it is said to be below 4,000 feet, but the information is not reliable, and its accuracy is doubted.

The structures in the district already mentioned are the most important excepting the Cat Creek. Other structures to the northwest, but not so important, have been condemned in varying degrees. A test on the line between Townships 17 and 18n and Range 20 east, in Fergus County, was drilled to 3,580 feet, finishing in the Madison lime. It had water from top to bottom with a light show of shale gas in the Colorado and a little heavy oil in the bottom of the Ellis at 1,694 feet. The dome in the center of Township 18n, Range 20e, was also given a Madison lime test, total depth 3,560 feet. It found shale gas which is indicative of nothing. Ellis sand and a good body of Quadrant sands were found in both these tests. Other less important tests were made not warranting detail.

A Debatable Territory

The district comprising Blaine, southwestern Phillips and all of Hill County excepting the southwest quarter of it, is a region, which while it lacks outstanding features, has a number of the usual Central Montana structures on which few thorough tests have been made. There are more undrilled locations that might be classed as "semi-favorable" than in any other part of the State. Wells now drilling in this area should, to a great extent, make known the general worth of the territory.

The Bull Creek Dome lies in Township 24n-23e, Phillips County. The Guinn Dome is in Township 24n-24e, Phillips County, and on this the Ohio Oil Co. is drilling. Grouse Alder is in Township 24n-25e, Phillips County. These domes are of the same general character and the Ohio's test should place a valuation on the others that would be considered fair to them. The Ohio Oil Co. is said to control all these domes.

The Mission Dome is found in Township 25n-23e, Phillips County. It is not definitely known who controls it, but it is supposed to be the Ohio Oil Co.

What is believed to have considerable possibilities is the Boyd structure lying on the township line between 31 and 32n, Range 19e, Blaine County. The Fergus Oil Co. has a test here which was last reported to be in the Eagle sand at a total depth of 1,120 feet, shut down for the winter. Activity will be resumed as soon as weather permits and this test will be closely watched until its completion.

In Township 25n, Range 17e, on the Sherrard Dome, Blaine County, the Ohio Oil Co. is drilling its second hole. This dome has produced some gas from sand at 1,748-75 feet. The well was first estimated at 20,000,000 feet but when it was shut in it tested 6,000,000 feet and it is believed the first estimate was high. This hole, which was in Section 17-25n-17e, was drilled to 2,765 feet. It was abandoned because it was presumed that after penetrating the most of the Colorado the tools crossed a fault, re-entering the Colorado 1,000 feet higher. The rig was skidded 600 feet east and the second test was slightly below the gas horizon when last reported. The second test found the gas production developed in the first hole.

The Clear Creek Dome was tested by the Ohio Oil Co. in Section 29-32n-18e, Blaine County, going through the Kootenai and finishing at 2,645 feet. The Toledo Dome, untested, lies in the township west. In the Havre region all the structures are generously faulted and the same may be said of practically all the central and north central Montana structures.

The Eagle gas sand owes its presence in the indefinitely outlined Havre anticline to this feature. The anticline begins in Township 32n, Range 16e, Hill County, and extends northwesterly until it disappears. The few producing gas wells drilled to an average depth of 1,000 feet developed wells of from 500,000 to 7,000,000 feet of gas which has been sold for fuel in Havre. Gas production and distribution cannot be said to have been profitable.

The Mid-Northern Oil Co. finished a hole at 3,306 feet in Section 31-34n-14e. It was said that this operation tested the Kootenai sand and it and another hole in Section 28-33n-12e, drilled 3,175 feet, with a diamond drill through the Kootenai sand, were the only deep tests in this area. In the latter hole the pipe parted and the hole was lost about 30 feet above where it was expected to find the top of the Ellis sand.

Undrilled portions of this area include the Lohman Dome, centering in Township 34-18e, the Chinook anticline in Township 33 and 34n-19e, and the Cherry Ridge structure in Township 36n-21e, Geologists for the Ohio Oil Co., Mid-Northern Oil Co. and California Oil Co. have all examined this locality.

The Sweetgrass Arch

We now come to the region generally described as the Sweetgrass arch within the district composed of Glacier, all but the northeast quarter of Toole, northwest quarter of Liberty, Choteau, north half of Judith, north half of Meagher, Cascade, north half of Lewis and Clark and Teton and Pondera Counties. The Kevin Field is within this area. This portion of the State, not considering Kevin at all, has had numerous tests drilled without reference to structure. Those on favored location proved dry, which renders the others unworthy of serious consideration. In a hole drilled in Section 10-20n-3e, Cascade County, to a depth of 3,340 feet several slight shows of oil and gas were reported in the lime below 1,900 feet, but doubt is thrown upon this. There was 2,545 feet of lime, probably Madison or Devonian, the bottom of which was at 2,875 feet. A hole was drilled in Section 18-21n-3e to 2,878 feet, quitting in lime, either Madison or Devonian. The Northfield Oil Co. finished in Madison lime at 2,750 feet in Section 20-26n-4e, Choteau County. The company claimed to have had a showing at 2,085 to 2,118 feet, probably Ellis sand.

The Western Petroleum Exploration Co. tested the Ellis sand at 2,184 feet in Township 20n, Range 3w, Cascade County, but found nothing. The Transcontinental Oil Co. found flowing water in the Ellis in a test in Section 8-23-9e, Choteau County, and went on to the Madison penetrating it and finishing at

(Continued on Page 110)

ALL signs point to an era of great prosperity just ahead for the oil producer. ¶Now is the time to investigate and install

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409

"Gas Bootleggers" Being Run Down by Kansas Oil Inspector

TOPEKA, Kans., Feb. 4.—While the maintenance of the war against the gasoline bootleggers in Kansas has cost the State $25,000 up to January 1, it has been so effective that the legitimate dealers in gasoline are ready to pay most of the bill this year. This was the announcement of Hugh Duff, State oil inspector, following a meeting of the gasoline distributors at St. Joseph this week. The distributors asserted that even if the cost of the inspection was three times as high as at present, the oil men could well afford to pay it purely as a matter of protection to them.

The gasoline bootleggers are the chaps who sell short measure gasoline or gasoline containing acids and other impurities at a low price. Until the State oil inspector began the work of testing the gasoline in all filling stations and also testing the measuring devices in use there was a great loss to motorists on account of short weight and bad gasoline. The bootleggers generally handle their product in barrels and sell it to unscrupulous garage dealers or in small lots on their own account.

This gasoline is usually the low grade product of the refineries and is of such a poor quality and contains so much acid and other impurities that the refiners will not attempt to sell it as gasoline. They refine it and make cleaner naphtha or sell it for use in low volatile engines. But the bootleggers buy this stuff at about the same prices as naphtha or kerosene. Some of them put a little casinghead gasoline into it to make it "shoot" quick in winter months, but in the summer they do not "waste" money by adding anything. The acids eat out the bearings of the engines and the dirty materials cause the engines to carbon very rapidly. In the summer months a gasoline engine when hot will burn kerosene, but it makes much carbon.

The oil inspector has been fighting the gasoline bootleggers for two years. At first the refiners and distributors would not help in the work or pay any of the expense. But the campaign has been so effective and has been such a protection to the refiners and gasoline distributors that they are now ready and anxious for the campaign to continue and to pay most of the expense of conducting the inspections.

ADVANTAGES OF OIL BURNER HEAT SEEN

(Continued from Page 36)

rooms—a small wall thermometer with a dial permitting thermostatic control of the temperature desired in the room. If the point of the dial is at 70 degrees the fire box of the furnace is idle so long as the thermometer reading is 70 degrees or more. But let a drop in the temperature outside or the escape of heat through the doors or windows lower the temperature of the room and instantly the furnace begins to work at its maximum capacity. The required amount of oil is released and forced through small jets by an electric blower, with ignition taking place usually from a small gas pilot light. The minute the heat has been supplied upstairs, which the thermometer records, the thermostat cuts off the power and the consumption of oil is completely stopped.

On retiring for the night, the family can set the dial to shut off the supply entirely if desired, while at the same time setting a clock connection which will automatically restore the supply of fuel at any hour in the morning. Such a service, entirely independent of the furnace man's habits or inclinations, can hardly be valued in dollars and cents.

Question of Supply

For the man who is interested in the possibilities of oil for heating his house the first move is to consult a local oil distributing station as to the availability of supply. Widespread marketing facilities such as have been built up for the distribution of gasoline and kerosene do not exist yet for fuel oil. However, the Standard Oil Co. (N. J.) in response to and in most cases anticipating public demand has already provided facilities for distributing fuel oil for domestic use in many stations in that section of the country which its refineries enable it to serve and these facilities will be extended as rapidly as business justifies it. Two distinct grades of oil are marketed for furnace use, a light product known as furnace oil, and a heavier, darker product called distillate fuel oil. The latter is ordinarily lower in cost than furnace oil—at this writing, 3 cents a gallon cheaper—and generally better suited to household needs where the proper apparatus has been installed to handle it. The fact should be borne in mind in the selection of a burner that by no means all of the different devices are constructed to burn the distillate fuel oil.

Recent years have brought a great development in domestic oil burning devices. There are many good burners of different manufacture on the market and perhaps as many poor ones. It is strongly urged that before deciding on any particular make of burner, the prospective purchaser get the names of one or more people in the locality who have had the particular device under consideration installed and who have operated it for a long enough period to be qualified to determine its merits.

Importance of Service

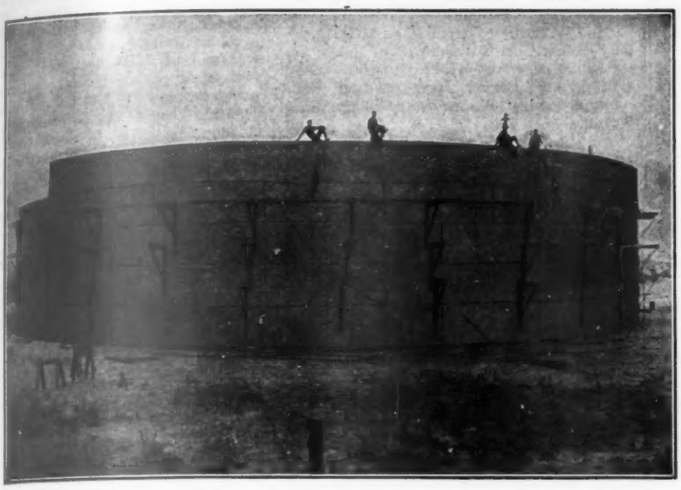
Burners should be purchased only from manufacturers or distributing organizations that are prepared to "service" their devices any hour of the day or night. There is nothing very complicated about a domestic oil burner, but like all pieces of mechanism they occasionally need a little attention even as the telephone or gas stove and this should be given by a service expert who is available at any hour of the day or night. Such a service is given by the substantial distributors at nominal cost and it may be regarded as a guarantee of confidence in the equipment sold.

The capacity of the tank for storing the oil, its location, size of intake line and the point at which oil is to be discharged are matters to be passed upon by the local oil dealer rather than by the manufacturers of the oil-burning equipment. It is not economical to "bucket" fuel oil from motor trucks to customers' tanks, nor is it wise to try to get along with too limited an amount of storage. In the use of "Standard" Distillate Fuel Oil, tankage should be provided for not less than 1,650 gallons so that a full truck load can be delivered at a time and advantage taken of the lowest price offered. Heavily loaded trucks ordinarily cannot be maneuvered over private driveways and the intake pipe should be located near the curb, the line and tank being so placed as to enable the oil to move by gravity from the truck to the tank.

Large apartment houses, hospitals, hotels and office buildings would ordinarily be grouped in domestic consumption but they are considered separately because of the fact that an engineer or fireman is constantly in attendance. In such plants the ordinary fuel oil of the general characteristics known to the commercial world is used and found more economical. This oil is not suitable for the small domestic buyer since it is heavy and must be carried under heat at all times to feed through the supply lines and atomize at the burner tip.

THE MARK OF AN OIL MAN

"A good many strangers, oil men, are hanging around Marion these days, looking wise and mysterious," reports the Marion, Kansas, Record.



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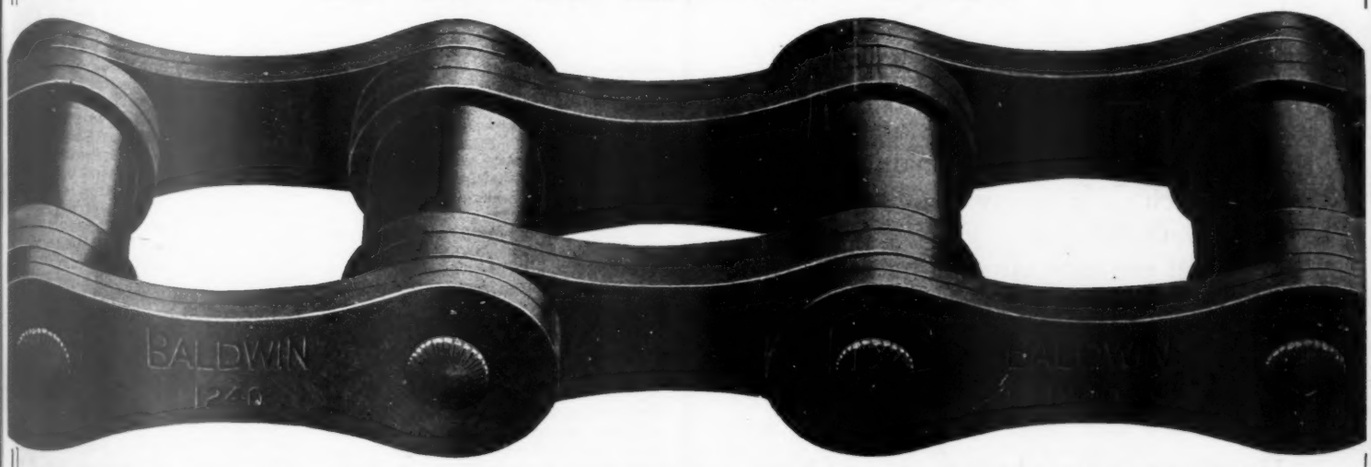

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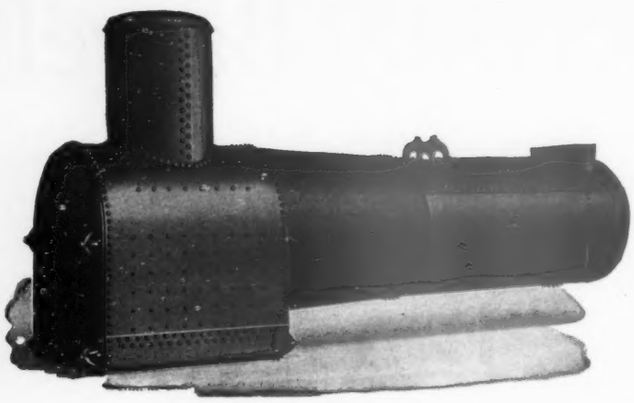

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They are constructed of steel, firmly riveted and caulked and are built according to the code for building adopted by the American Society of Mechanical Engineers, which code is now required in the State of Oklahoma. Every Kewanee Boiler will produce all that its rated capacity calls for. You are not experimenting when you use Kewanee but are buying a boiler that has been produced after all of these years of continuous building.

Hundreds of these boilers are and have been in use in the oil fields and have given the owners excellent service.

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Makers of Steel Boilers, Steel Tanks, Water Heating, Garbage Burners, Tabasco Water Heaters
Sold by International Supply Co., Tulsa

WHAT WILDCATTER HAS DONE IN MONTANA AREA

(Continued from Page 107)

2,970 feet. In Township 25n, Range 9e, two holes were drilled on the Vimey Ridge or Loma structure and both found flowing sulphur water in the Ellis sand.

Teton Was Well Tested

One of the most thoroughly tested counties in Montana was Teton County, which was considered in the most favorable part of the Sweetgrass arch. Seven tests were made on the Agawam Dome and the results were the same in each. Barren Kootenai sands were found in every case, but there was no water. Both high and low points on the structure were thoroughly tested however. Each of the wells found sulphur water in the Ellis. Evidently the water in Ellis sand is general in the Choteau-Agawam region, as all the tests went through the Ellis and found it.

One anticline of much geological virtue is the Willow Creek, in Township 24n, Ranges 6 and 7w, but it is located in the big syncline between the Sweetgrass arch and the Rocky Mountains and its possible producing sands would lie at an almost prohibitive depth. The Western Petroleum Corp. in Section 24-24n-7w drilled to 3,519 feet, 500 feet above the Kootenai. A favorable looking small structure exists on the line between Townships 26 and 27n, Range 6w. In one test drilled sufficient gas to fire a drilling boiler was found at 310 feet. The machine was skidded and another hole started, which at last report was down 1,100 feet. This gas showing and a showing of oil have been the only things of merit found in either Pondera or Teton County.

The Gypsy Oil Co. drilled to 3,148 feet in Section 4-27n-6w in Teton County and put down another test in Section 14-25n-3w, abandoning it at 2,017 feet. In neither did the company find anything to encourage further work in that region.

The Depuyer anticline in Township 28n, Range 8w, Pondera County, is so very deep that the operating heads of interested companies have had no difficulty in resisting the temptation to test it.

A 3,042-foot test was drilled by the Mid Northern Oil Co. in Section 7-28n-4w, but the supposed structure was never found. An undrilled but good looking prospect is the Goose Bill structure, the point of contact of Townships 27 and 28n, Ranges 6 and 7e, in Chouteau County.

A few tests were made in Glacier County and oil showings reported and there were a couple of wells drilling north of Browning at the beginning of the year. Definite information on the tests is not at hand, but it is said they only show additional evidence of what a flivver the general country is from the standpoint of an oil operator.

The Gladys Belle Test

North of Township 34n and including Ranges 1 to 7e, taking in the northeast quarter of Toole and the north half of Liberty County, and referred to as the Sweetgrass Hills, four tests have been drilled. All had showings of oil and a little gas. The best looking test in this part of the State is that of the Gladys Belle Oil Co. in Section 19-37n-4e. This test showed a gas production of 25,000,000 feet a day from 1,600 to 1,750 feet, probably Frontier sand. From 1,790 to 1,870 feet there were showings of a high-grade green oil and this was repeated at 2,100 feet and again in a sand at 2,560 to 2,615 feet. This test has been delayed a long time by a fishing job. It is at a total depth of 2,675 feet.

The Gladys Belle test created a sensation when it developed its first big gas production and a great well was expected by everybody familiar with oil and gas production in the State. In Oklahoma, such a showing would have assured an oil field near by. It may eventually prove the case in Montana and this test is not expected to end exploration in that part of Toole County, whatever its fate may be. A 2,670-foot hole was completed in Section 4-37n-2e, which entered the Kootenai 610 feet and probably quit in its lowest sand. There was gas at 1,735 feet and gas at the bottom of the hole, and, what was unusual a hole full of salt water uncovered at 1,810 feet in the Colorado formation. A hole 2,116 feet in depth was drilled in Section 36-27n-2e and abandoned just above the Kootenai horizon. Showings of gas from the shale and some sand were reported in the course of this test. In Section 24-37n-3e was a test in which a number of showings were reported. Gas was reported at 1,040 and 1,700 feet; oil at 1,730 feet; gas at 1,779 feet and 1,887 feet and oil at 1,955 feet. It was finished at 2,085 feet just below the Dakota sand. There is a test yet drilling in Section 12-36n-5e, Liberty County, which was last reported at 2,750 feet, about 600 feet into the Madison lime. It logs gas at 400, 500, 1,000, 1,125, 1,200, 1,375 and 1,670 feet, while between 2,000 and 2,100 feet a 5,000,000-foot gas production was opened up. No oil was reported.

Looked Upon With Favor

Many structures of note are to be found in a district comprising parts of Stillwater, Golden Valley, Sweetgrass, Wheatland and Meagher counties. This region may be looked upon with favor. It might safely be called the best looking prospect in the whole State. It has had some tests and is deserving of more.

The Big Lake anticline is in Township 1n, Range 21e, Stillwater County. Three wells have been drilled, two of which were completed as small gas wells in the Eagle sand at 1,200 feet. The third went to the Colorado. The Mid Northern Oil Co. is drilling in Section 26, on the same structure, and was 3,650 feet deep when last visited or about 200 or 300 feet above the Dakota. Gas was found in three sands between 2,980 and 3,085 feet, developing a 12,000,000-foot production. The Mid Northern test was looked upon as having good chances for a favorable completion.

Barnsdall Drilled Deep

The Barnsdall organization drilled in Section 35-2n-21e, Stillwater County, to a depth of 4,050 feet, entering the Kootenai 240 feet. There was shale gas at 3,675 and oil in the bottom of the Dakota sand from 3,800 to 3,811 feet and another oil showing at 3,890 to 3,920 feet. Nearby a number of shallower holes developed gas in the Eagle sand.

In the intersection of Townships 3 and 4 and Ranges 20 and 21e, in Stillwater County, lies Hailstone Basin, which has been drilled twice, one hole testing the Quadrant, total depth 3,031 feet, and the other stopping in the Colorado formation. Shows of oil, gas and water at 932 feet and at 1,087 feet, the latter probably in the Frontier sand, were reported. Hot sulphur water was found in the Quadrant at 2,860 feet. In Township 3n, Ranges 18 and 19e, Stillwater County is Six Shooter anticline, which is one of merit. The Mid Northern Oil Co. is drilling here in Section 17-3n-19e and was about 1,200 feet deep and in the Colorado when last reported. The only other test here was dry and abandoned in the shallower Eagle sand. The Mid Northern company's well is being watched closely.

Three tests were given the Big Coulee anticline in Townships 4 and 5n and Ranges 19 and 20e, on the Stillwater-Golden Valley County line. One of the tests drilled to the Quadrant and two to the Kootenai formation. Showings of oil and gas were reported in the Colorado and the Kootenai. This structure appears to be condemned.

Neither of the two tests on the North Broadview structure in Township 4, Range 23e, Yellowstone County was sufficient, as the Colorado formation was not penetrated. The South Broadview, in Township 3n, Range 22e, Stillwater County, was condemned by a 3,650-foot hole which reached the Quadrant.

An outstanding geological feature in this district is the Shawmut anticline in

Townships 6, 7 and 8n and Ranges 14 to 19e inclusive, taking in a part of Wheatland and Golden Valley counties. The Madison lime was tested in Section 6-6n-16e with two tests, the lime having been entered about 600 feet without encouraging results. The California Oil Co. is drilling below 1,675 feet in Section 34-7n-16e, but had not found the Madison lime which was expected at 1,370 feet. This test did not look good at its last reported depth. Two dry holes on the extreme east end of the anticline passed through the Kootenai. A little gas was reported in the test in Section 24-7n-18e.

A Kootenai and a Madison lime failure are recorded on the Big Elk Dome in Township 7n, Range 13e, Wheatland County. In the latter the Mid Northern Oil Co. found lime at 2,865 feet, going into it to 2,935 feet. There was a good show of gas at 1,400 feet and an oil showing at 2,020 feet.

The only portions of Montana omitted from this review have been those in the extreme west and southwest, where there is neither geological nor development interest, so far as can be learned.

PENETRATION TESTS OF MUD FLUID MADE

Further tests to determine the rate at which a mud sheath will build up on the face of an oil sand when mud fluid of certain specific gravity, under a uniform pressure, is forced into unconsolidated sands of different mesh, have been made by the Department of the Interior engineers at the Petroleum Experiment Station of the Bureau of Mines, Bartlesville, Okla. In one of the tests a mud fluid of 1.1 specific gravity built up a solid mud sheath one-eighth inch thick, on sand which passed through a 14 mesh but would not pass through a 28 mesh screen, under a pressure of 1,000 pounds, during two hours of intermittent pressure. In another test it required seven hours intermittent pressure to build up a mud sheath to hold a pressure of 1,000 pounds, when sand that passed through a 10 mesh but did not pass through a 14 mesh screen was used. The results of this test show that the size of the opening between the sand grains, is an important factor in the passage of mud fluid into an unconsolidated sand.

Tests were continued on the effect that storage of cement has on its tensile strength. These tests indicate that the tensile strength of cements in storage 30 days is lower than cements in storage only three days.

Tests have been made to determine the effect that different proportions of mixing water have on the tensile strength of cement. The greater the proportions of mixing water to cement, the lower is the tensile strength. In oil field practice cement is mixed with a considerably larger amount of water than is necessary to satisfy the chemical affinity of cement for water. The excess water produces greater fluidity and also retards the rate of setting of cement. Both of these factors are often desirable when cementing a well but are seldom essential if proper care is exercised in the selection and installation of equipment used in cementing operations. Some operators, however, use too large a proportion of mixing water and, therefore, greatly reduce the tensile and compression strength of the cement.

AMARILLO WANTS OIL ROAD

AMARILLO, Tex., Feb. 11.—Oil interests of the Texas Panhandle have joined other industrial groups in urging construction of a railroad north from Amarillo through the north plains area. N. G. Nobles, president of the Amarillo Oil Co., has prepared a brief for presentation to the Interstate Commerce Commission showing oil and gas development and possibilities in the Panhandle. It argues the necessity for factories to use natural gas and of the settlement of the country to increase market demands for all classes of products produced here.

OWNERS IN RED RIVER WAITING COURT RULING

GRANDFIELD, Okla., Feb. 11.—No less than 25 to 40 lease owners in and along Red River in Cotton and Tillman counties, whose properties are bounded by the medial line of the stream, are preparing to start drilling for oil shortly after the United States Supreme Court has rendered an opinion showing the location of the medial line. A majority of lease owners want to drill as near that line as possible and some wells will offset wells in the Delano receivership area. Placer mining claimants, whose affairs are in the hands of the Secretary of the Interior, have been expecting a supreme court opinion since the first of the year.

An area of production north of the middle of the stream has been proven by the Oklahoma-Texas Oil & Refining Co. of Grandfield which has completed nine wells and has two others near completion. These wells, five of which are east of the Grandfield bridge and four west, are in the stream and are making from 50 to 125 barrels a day. The oil is pumped to the company's refinery at Grandfield.

In the same area the Revenue Oil Co. of Grandfield has completed one well, reported making 80 barrels, and Mark Kleeden of Wichita Falls has one nearing completion. The Marshall Production Co. has completed two to be put on the pump soon. These wells produce from the Burkburnett sand found at 1,540 feet to 1,580 feet.

Mund and others, who were expecting to find a 1,200-foot sand in that territory, have abandoned a test at 1,400 feet, 4 miles northeast of Grandfield. The Carter Oil Co., which has spent several hundred thousand dollars searching for oil in Cotton and Tillman counties, hopes yet to locate a pool. It is drilling 16 miles northeast of Grandfield and is reported to have concluded to drill again in the southern part of Cotton or Tillman County.

PRAIRIE PROTESTS RATES ON SUPPLIES

TOPEKA, Kans., Feb. 11.—Twenty-six railroads in Kansas were made defendants in a case filed with the State Public Utilities Commission by the Prairie Oil & Gas Co. It charges that on hauls within the State the railroad rates on iron and steel pipe, tank and derrick materials and well boring machinery are "unjust, unreasonable and in violation of law."

The Prairie Company alleges that the various railroads have refused to make just rates; that the freight rates within the State are higher than the same lines charge on interstate shipments of the same distance; also that the rates are higher than the same lines maintain in Oklahoma and Arkansas, thereby giving "undue preference and advantage to competitors in those States."

The application urges the Utilities Commission to hold a hearing and issue a rate schedule on the materials named, revising the present rate.

BOWIE-GAVIN CRACKING PROCESS

Much interest continues to be manifested in the possibility of the adoption of the Bowie-Gavin cracking process, developed by Interior Department engineers at the San Francisco office of the Bureau of Mines, to the simultaneous recovery and cracking of oil from oil-soaked sands and shales. A number of people having interests in the oil-soaked sand deposits of California or Canada have called at the San Francisco office to look the plant over and discuss its operation. A report on the revitalization of inert material from the Bowie-Gavin process is being prepared by J. C. Desmond, chemist, Bureau of Mines.

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In addition to standard designs which have been worked out to cover all ordinary requirements, Carnegie Steel Company is prepared to build 'to order'—equipment suited to your individual needs. Competent engineers, skilled in oil derrick construction, are ready at all times to help with your problems.

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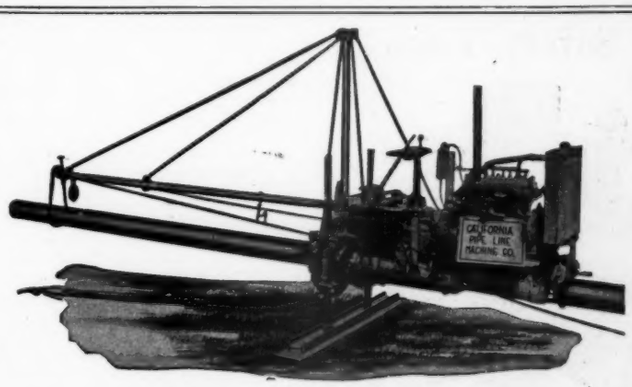

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CALIFORNIA Pipe Line Machine

This machine travels on the pipe. It is a simple, sturdy, always dependable device. Its work in the service of leading pipe line companies is its best endorsement.

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LIGHTNING Lubricator Stuffing Box

Lightning Stuffing Boxes are an improved design and are made in two styles, with either loose seat or regular pattern. All are of the spring tension kind with a lubricator feature that makes them more desirable. They wear longer, require less attention, and are handier for the operator. Order from your dealer or direct from us.

Safety Tops

Lightning Safety Casing Head Tops make a gas or oil tight joint around the tubing. The tubing is held in three tapered slips which grip the pipe and coupling, thereby preventing vibration and danger of a break at the coupling. Ask your supply dealer or write direct to us.

We also manufacture pumping powers, jacks, etc.

Oil Field Supply Dept.
Kansas City Hay Press Co.
Kansas City, Mo.

BARRELING BRANCH AUTO TRANSPORTATION

(Continued from Page 40)

is attacked by the alkali and the chemical reaction results in soap.

Manufacture of Grease

When saponification is complete, the mineral oil is added, the character of the resulting grease being controlled by the character and amount of the oil added. In admitting the oil to the kettle, an accurate gauge of the amount is secured by the use of a meter on the line. After running the oil into the kettle gradually, the real art of the grease maker comes into play. It generally takes about an hour and thirty minutes to complete manufacture of the grease after the soap is formed and the batch is in readiness for the oil.

At the finishing point the skill of the grease maker is brought out. He is compelled to watch the batch carefully and to take samples constantly. The reason for this care is to find the proper time to draw off the batch. Time consumed in drawing off the grease must also be reckoned by the maker.

In gauging the proper time for finishing the grease Mr. Lloyd asserts that its appearance tells the operator more than any tests that have been devised. The process may be likened to the skill of the woman who makes candy for her friends. The ingredients are cooked until she feels that the proper time has arrived when it can be taken from the fire, cooled and finished. Grease makers have the same intuitive methods of knowing when their batch is "done" also.

At the Hammond plant the grease kettles are fitted with 6-inch openings at the bottom which permit lower temperatures before drawing off the grease and casing it. The average at which the drawing starts is about 150 degrees F.

For smooth greases to be used in open bearings and for general lubrication, calcium compounds are used in producing saponification. Sodium compounds are used in producing the soap base for fiber or transmission greases, characterized by their stringy nature and noticeable consistency. In both cases the addition of more mineral oil to the soap produces a freer running grease, whereas the omission of oil gives a heavier and stiffer mixture.

"On hot surfaces, grease is a method for conserving lubrication," declared Mr. Lloyd. "The soap serves to hold the lubricating oil in suspension until the heat of the bearing or the operation of the machine breaks down the soap, and releases the mineral oil.

Lubricant Tests

"Lubricating engineers are doing a wonderful work in economical lubrication through the use of greases. Recently a large Chicago factory put on an expert to work on one of their problems. A big machine had been using 57 gallons of good lubricating oil every day. Once every week the machine was torn down and the bearings were replaced. The expert started using grease on the bearings and cut the lubricant consumption to two gallons of this material every week, and at recent reports the machine had been in operation five weeks without having the bearings replaced."

The animal fats are the most expensive feature in grease making, averaging in cost about 75 cents per gallon, with the neutral oil costing about 7 cents a gallon. The fats form 10 to 25 per cent by volume of the finished grease.

One form of very hard fiber grease, manufactured in direct fire kettles without the use of steam jackets, is poured into shallow pans to cool after being properly compounded in the kettles. In these pans, it is raked during the cooling process, with the result that a hard fiber product is produced. All greases, included the hard fiber products, are drawn off while warm and placed in the proper containers for shipments while still in a semi-fluid state. Handling in quantity is made difficult after the grease becomes hard.

OIL INDUSTRY DUE TO MAKE LARGE PROFITS

(Continued from Page 40)

succession of economic events may be readily recalled. First there was a boom in the oil share market and speculative interest in the situation was thus aroused. This was then followed by a tremendous flow of new capital into the petroleum industry under the incentive of large prospective profits; at the same time sharp advances in oil prices were registered. Finally, improved methods of oil finding and oil production were developed as the last link in the chain—speculative interest, capital inflow, rising prices, improved technique.

And what was the economic result? Unfortunately, or perhaps one should say inevitably, the economic forces let loose were not curbed as soon as their proper work was accomplished, and crude oil production was finally too strongly stimulated. There followed several years of overproduction, a number of rapidly recurring periods of low prices, and a renewed impetus to demand as a result of cheap and ample supplies. This situation culminated in the last half of 1923.

The cycle described above has apparently run its course. Increased demand and decreased supply have brought momentary equilibrium, but there is considerable evidence to indicate that the momentum of demand is now greater than the momentum of supply. If this conclusion is correct, we are entering a period of substantial withdrawals from crude oil storage. If so, it will be necessary to let loose once more the economic forces that can again bring equilibrium.

In short, it would appear that the rate of crude oil production needs a new impeus and that this impetus, together with other compensating developments, can be be brought about by means of:

(1) A period of activity in the oil-share market to attract the interest of new capital.

(2) Relatively high prices for crude oil and gasoline, in order (a) to stimulate deep drilling, extensive wildcatting, and well pumping technic from deep sands; (b) to renew interest in the development of the more accessible foreign sources of supply, such as Venezuela and Mexico; (c) to curtail the use of fuel oil under steam boilers; (d) to stimulate the cracking of fuel oil into gasoline, and (e) to incite more rapid progress in fuel economy in the automobile.

Higher Prices Coming

In the process of releasing the economic forces needed to stimulate supply the petroleum industry will of necessity make large profits. Under such circumstances prices must go to the point where the most inefficient and highest cost units in the industry are stimulated into activity, where the most reluctant dollars are brought into action. This means, of course, substantial profits for the efficient, low cost units. In point of fact, large profits are not only inevitable; they are a necessity if time is to be saved in gaining renewed equilibrium.

If the foregoing line of reasoning is correct and higher prices are needed to bring supply and demand into equilibrium, then it is reasonable to expect the following sequence of events:

(1) Further speculative activity in oil shares.

(2) The attraction of much new capital into the petroleum industry.

(3) Higher prices for crude oil and gasoline.

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CANADIAN AUTO REGISTRY

An important increase in Canada's truck and automobile business is shown by trade figures for 1923. In British Columbia, 5,000 more automobiles were licensed in 1923 than in 1922. In Alberta, registrations increased 1,250; Saskatchewan increased 2,500 motor cars. Manitoba will show a small increase in 1923, against an increase of 1,775 in 1922 over 1921.

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OKLAHOMA FIELDS

(Continued from Page 42)

in sand at 1,184-85 feet, and it produced 300 bbls.

About a mile east of the Bruner Pool just outside of Tulsa, the Echo Oil Co. topped a gas sand at 1,913 feet in its No. 1-A Grayson, C SE SE NE, Section 5-19-12, and with the bit 7 feet in, was good for 8,000,000 feet of gas. The gas will be shut off and the well drilled on deeper. Scots are optimistic about this find and think that it will open up a new pool.

Southwest of Perry, in Noble County, a duster was abandoned by Snowden & McSweeney. It was their No. 1, SE cor. NE, Section 31-21-1w, and was dry at 3,806 feet. The Perry Service Co. was drilling at 1,285 feet in its No. 1 Boyer, SE cor. SW SE, Section 20-21-1w.

Creek County Operations

In Creek County, the Phillips Petroleum Co.'s No. 17 Tiger, NW cor. SW, Section 4-15-9, was good for 700 bbls. natural in sand at 2,912-17 feet. First oil was found at 2,914 feet. A rig was in place for the same company's No. 18 Tiger, SW cor. NW SW, same section. C. G. Tibbens also had a rig built for his No. 1 Sneed, NW cor. NE NW, Section 18-14-9.

A 10,000,000-foot gasser was brought in by the Phillips Petroleum Co.'s No. 1 Conway, SW cor. SE, Section 30-15-8, in sand at 2,952-74 feet. A rig was on the ground for the Prairie Oil & Gas Co.'s No. 2 Mitchell, NE cor. NW SE, Section 17-15-8, and for the Pulaski Oil Co.'s No. 6 Fulson, SE cor. SW NE, Section 8-15-8. The Damar Oil Co. abandoned No. 1 Gooden, SE cor. NE, Section 14-15-8, as dry at 3,842 feet. Another duster was the Cosden Oil & Gas Co.'s No. 1 Watson, NW cor. NE NE, Section 15-15-8, which was dry and abandoned at 4,018 feet. Potter & McMahon's old well, No. 3 Bear, CSL NE SW, Section 2-15-8, ran into water at 3,733 feet and was plugged back with lead to the productive sand at 3,727-31 feet where it was making 10 bbls. natural.

A 17,000,000-foot gasser was opened up by the Pure Oil Co. in its No. 2 Wright, NW cor. SW NW, Section 19-17-9, in sand at 2,690-2,707 feet. The Bu-Vi-Bar Petroleum Corp. was spudding its No. 1 Roberts, SW cor. NW NW, Section 31-17-9. The Prairie Oil & Gas Co. spudded and shut down its No. 2 Marshall, SW cor. same section. The Atlantic Oil Producing Co.'s No. 1 Fixico, SW cor. SE SE, Section 29-16-8, was making 750,000 feet of gas and estimated to be spraying about 10 bbls. of oil from sand at 3,250-51 feet. It was shut down for tankage. The Lorraine Petroleum Co.'s No. 11 Deere, NW cor. SW NE, Section 23-16-8 found sand at 3-118-25 feet, and flowed 30 bbls. the first hour from oil pay touched at 3,122 feet, and was increasing.

The Laurel Oil & Gas Co.'s No. 4 Knoll, NW cor. NE SW, Section 22-16-8, was good for 800 bbls. natural from sand at 3,117-19 feet. The Cortez Oil Co. had a rig in place for its No. 4 Wilson, SW cor. SE NW, Section 22-16-8. The Roland Oil Co.'s No. 1 Morrison, SE cor. Section 25-17-8, was making 6,000,000 feet of gas and 15 bbls. of oil from gas sand at 2,691,2-716 feet and oil pay at 2,717-23 feet.

Okfuskee County

In Okfuskee County, Burke & Greis plugged back their No. 1 Holmes, NW cor. NE NW, Section 32-11-11, from 2,779 feet to sand at 2,548-57 feet which had a 50-bbl. show. Deaner & Edgar's No. 1 Tucker, SW cor. NE SW, Section 15-11-11, an old well, was dry and abandoned at 2,722 feet. The Sinclair Oil & Gas Co.'s No. 3 Smith, CSL SW NE NW, Section 13-11-11, was good for 17,000,000 feet of gas in sand at 2,770-81 feet.

A failure was recorded at 2,879 feet in Bob Galer's No. 1 Jones, NW cor. SE, Section 36-15-12, Okmulgee County.

Okmulgee County

In Okmulgee County, a shot of 60 quarts made a 30-bbl. producer out of J. S. Cosden's No. 5 Webster, C NE NE, Section 33-12-12, in sand at 1,477-1,502 feet. E. R. Black had a rig on the ground for No. 2 Larney, SW cor. NW SE, Section 10-12-12. The Gladys Belle Oil Co. and Sands Petroleum Co. had 1,000 feet of oil in their No. 6 Bruner, CEL SE SE, Section 36-13-11, from sand at 2,521-40 feet. The Enfisco Oil Co. shot its No. 1 Grayson, CWL SW NE NW, Section 3-15-11, with 10 quarts in sand at 2,220-46 feet and it made 35 bbls. A 30-bbl. producer was the result of a 40-quart shot in the Waite-Phillips Co.'s No. 3 Richards, NW cor. SE SW, Section 14-15-11, in sand at 1,855-76 feet. A duster was abandoned by E. L. Robinson in his No. 1 Johnson, SE cor. NE SW, same section, at 2,767 feet.

In Tillman County, H. V. Burton abandoned his No. 1-A Lawrence, NW cor. NE, Section 28-3s-14w, as dry at 1,310 feet. The Oklahoma Texas Refining Co.'s No. 4 Riverbed, CNL NW SE, Section 4-5s-14w, was producing 60 bbls. from sand at 1,616-36 feet. A deep test will be made for No. 5 Riverbed, being drilled by the same company, NE cor. NW SE, same section, which missed the sand and was below 1,990 feet. A rig was in place for the same company's No. 6 Riverbed, CSL SW NE, same section.

In Creek County, the Wolfe Oil Corp.'s No. 1 Montgall, SW cor. Section 27-18-8, which topped the Dutcher sand at 3,171-72 feet, swabbing 75 bbls. the first 24 hours and 20 bbls. the second day, was at total depth of 3,181 feet in lime and had 2,500 feet of oil in the hole.

In the Wewoka Field, two new producers were added. One was the Independent Oil & Gas Co. and Sinclair Oil & Gas Co.'s No. 1 Foster, NW cor. NE SW NW, Section 33-8-8, just two locations east of the discovery well. It was good for 500 bbls. in sand at 3,149-67 feet. The other was the Dixie Oil Co.'s No. 3 Foster, C SW SW NW, same section, two locations south of the discovery, and flowed 875 bbls. natural in the first 24 hours from sand at 3,152-73 feet.

In the Graham-Fox area, of Carter County, the Atlantic Oil Producing Co.'s No. 1 Jefferson, C NW NW SE, Section 25-2s-3w, was good for 280 bbls. from broken sands at 2,452-58 feet. The Schermerhorn Oil Co.'s No. 8 Sparks, C NE SW SW, Section 30-2s-2w, made 21,000,000 feet of gas from broken sands at 2,087-2,206 feet. The Healdton Petroleum Co.'s No. 1 Smith, C SW NW SW, Section 32-2s-2w, produced 100 bbls. from sands at 2,500-03 feet and 2,522-33 feet, with total depth of 2,560 feet.

Another producer has been added to the Tulsa Country Club Pool by Munn Brothers and others in their No. 6, NW cor. NE, Section 28-20-12, which tanked 800 bbls. during its first 24 hours from sand at 2,065-70 feet. The Peer Oil Corp. had a relatively small producer in a diagonal offset to this well, No. 1 Mackay, SE cor. SW, Section 21-20-12, which found sand at 2,065-70 feet but ran into water at 2,070-74 feet and plugged back to 2,066 feet where it was good for 100 bbls. the first 24 hours. The Peer Oil Corp. was spudding its No. 5, SE cor. NW, Section 28-20-12, and the Munn Brothers and others' was drilling at 300 feet in their No. 1, NE cor. SW, same section.

North of Pawnee, in Pawnee County, the Prairie Oil & Gas Co. abandoned as dry at 3,965 feet, its No. 1 Coleclazier, CWL SW SE, Section 15-22-5e.

In Tulsa County, the Mutual Oil Co. abandoned its No. 3 Lester, CNL SW NE, Section 10-19-10, as dry at 1,743 feet.

EFFECTS OF CATALYST

Writing on new catalytic effects of zinc chloride and aluminum chloride in Industrial and Engineering Chemistry, J. F. Norris says a catalyst can cause, at ordinary temperatures, the severing of the same bond that breaks when decomposition takes place as a result of high temperatures; second, that a substance that has been thought to act as a dehydrating agent in bringing about a reaction involving the elimination of water, effects the condensation as a result of its catalytic influence, even though water is present.

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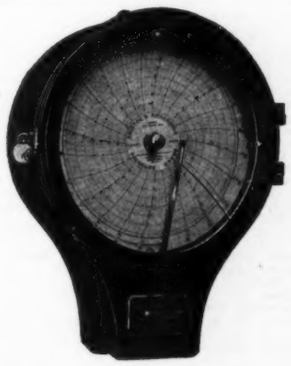

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Oklahoma Production Fourth Quarter

Output Shows Material Decline. One Per Cent of Concerns Reporting Produced 60 Per Cent of All the Oil

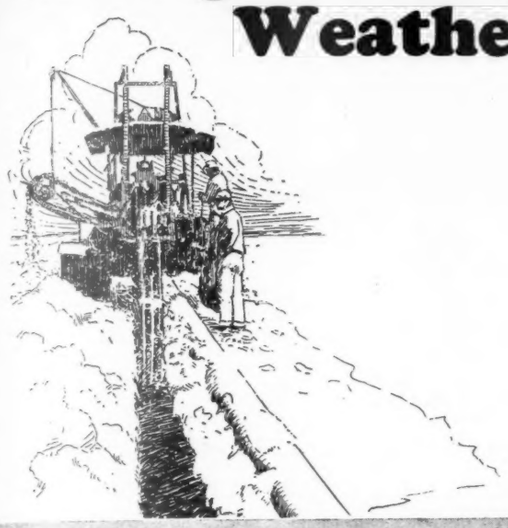
The rapid and extensive decline in the production of crude petroleum in Oklahoma was emphasized by the reports of operating concerns filed with the State Auditor for taxation purposes for the last quarter of 1923. These reports, from 1,376 concerns, showed a total gross production of 35,886,147 bbls. during the last three months of 1923 as compared to 40,303,570 bbls. during the third quarter of that year, a drop of 4,417,423 bbls. during the 92 days. The average daily production showed a decline of 48,016 bbls. from 438,082 bbls. for the third quarter to 309,066 bbls. for the fourth quarter. Production declined 9,437,525 bbls. during the last six months of 1923, the daily average output dropping 107,996 bbls., or from 498,062 bbls., which was the average for the second quarter of the year to 390,066 bbls., the average for the last quarter.

Of the 1,376 concerns making reports, 15, or approximately 1 per cent, produced 21,422,022 bbls. or 60 per cent of the entire amount. Each of these 15 companies produced more than one-half million barrels during the 92 days' period. They were the Carter Oil Co., Comar Oil Co., Cosden Oil & Gas Co., Dixie Oil Co., Inc.; Gypsy Oil Co., McCaskey & Wentz, Magnolia Petroleum Co., Phillips Petroleum Co., Prairie Oil & Gas Co., Producers & Refiners Corp., Roxana Petroleum Corp., Sinclair Oil & Gas Co., Skelly Oil Co., The Texas Co., and the Wolverine Petroleum Corp. The Gypsy was the largest producer with an output of 3,130,141 bbls.

The list, as filed with the State Auditor, follows:

Abraham, Joe, Bristow	878
Adams, John Q. & Alex, A Dennison et al, Claremore	152
Adams & McGahey, Ardmore	326
Adams Bros. & Prince, Ardmore	1,176
Aetna Pet. Co., Pittsburgh, Pa.	1,012
Aggas, John, Morris	222
Aiken, F. M., et al, Okmulgee	145
Albert, W. O., Tulsa	249
Albion Oil Co., Tulsa	10,805
Alcorn Oil Co., Ponca City	12,229
Aldrew Oil & Gas Co., Tulsa	1,312
Alert Oil Co., Lockport, N. Y.	83
Alexander, J. H., Tulsa	261
Alexander-Shakely Pet. Co., Tulsa	12,374
Allen, G. R., Tulsa	498
Allen, J. R., Tulsa	198
Allen Well Co., Allen	533
Allison, R. J., Tulsa	6,831
Almeda Oil Co., Bartlesville	3,477
Amerada Petr. Corp., Tulsa	404,660
American Contracting & Producing Co., Bartlesville	388
American Oil Development Co., Pittsburgh, Pa.	9,352
American Oil & Gas Co., Bartlesville	4,781
American Eagle Oil Co., Bartlesville	39,521
American Pipe Line Co., Wichita Falls, Tex.	5,135
American Royalty Pet. Co., Tulsa	960
Amster, N. L., Ardmore	50,109
Anderson, C. T., Trustee, Dallas, Tex.	3,945
Andes Oil & Gas Co., Tulsa	515
Anglo-Texas Oil Co., Tulsa	24,755
Anthis, Austin F., Muskogee	908
Arkansas Natural Gas Co., Pittsburgh, Pa.	2,498
Armstrong Trust Co., Tulsa	932
Arthur Oil Co., Sistersville, W. Va.	8,871
Ashland Oil Co., New York	8,143
Associated Oil Co. of Texas, The, Wichita Falls, Tex.	160
Atchison Oil & Gas Co., Atchison, Kans.	2,358
Atlantic Oil Prod. Co., Dallas, Tex.	73,869
Atlantic Pet. Co., Boston, Mass.	2,470
Atlantic Pet. Corp., Tulsa	145,059
Atlas Oil & Gas Co., Okmulgee	442
Atlas Pet. Co., et al, Kansas City, Mo.	172
Attleberger & Cochrane, Tulsa	396
Aubyme Oil & Gas Co., Garber	4,327
Ault & Ross, Vinita	3,558
Avery, Cyrus S., Tulsa	96
Avery Oil & Gas Co., Tulsa	2,213
Ayling, A. B., Bartlesville	25
Aztec Oil Co., Tulsa	30,115
Babler, Jacob L., St. Louis, Mo.	294
Baker, Frank A., Tulsa	358
Baker Oil & Gas Co., The, Independence, Kans.	282
Baker & Strawn, Tulsa	31,056
Ball, Cora G., Trustee, Coffeyville, Kans.	903
Bamm Oil Co., Tulsa	220
Banford Oil Co., Tulsa	596
Barber Oil Co., Tulsa	516
Barnsdall Oil Co., Tulsa	324,268
Barr & Painter, Nowata	315
Bartles-Johnstone Oil Co., Bartlesville	884
Bartlett, D. A., Trustee, Marietta, Ohio	1,008
Bartlett, J. B., Tulsa	166
Bauder & Franklin, Tulsa	167
Baxter, A. B., Estate, Atlantic City, N. J.	739
Baxter, L. W., Tulsa	1,067
Bay State Oil Co., Kansas City, Mo.	13,702
Bay State Oil Co., Kansas City, Mo., and The Paden Oil Co., Oklahoma City	8,109
Baynes, John A., Executor, Mounds	429
B. B. & Waite Drilling Co., Bartlesville	51
B. Jack Oil Co., Sapulpa	963
Beacon Oil Co. and Boston & Osage Oil Co., Bartlesville	6,810
Beal, C. E., Depew	1,066
Beal, C. E., Depew	1,066
Beams, Drew, Okmulgee	2,057
Beasley, S. A., P. H. Stein and M. S. Mussellem, Muskogee	126
Beau-Ard Oil Co., Ardmore	701
Bebout, W. M., Bartlesville	94
Beggs Oil & Gas Co., Okmulgee	10,255
Bell Oil & Gas Co., Warren, Pa.	4,533
Ben Franklin Oil Co., Enid	901
Bergen Oil & Gas Co., Tulsa	5,303
Berlin & Duffield, Tulsa	1,526
Berry, George D., Coffeyville, Kans.	499
Best, F. A. and W. J. Lambert, Tulsa	206
Best, George C., Marietta, Ohio	1,618
Betty G., Pet. Co., Cement	433
Biddle Oil Co., Tulsa	1,268
Big Four Oil Co., Independence, Kans.	265
Big Windy Oil Co., Tulsa	1,441
Billy Oil Co., Chelsea	196
Bingman, O. A., Okmulgee	6,104
Bingman, W. B., Okmulgee	6,104
Bingman, W. B., trustee, Okmulgee	944
Bingman, Smith Oil Co., Okmulgee	3,613
Bird, Gaffney & Simons, Bradford, Pa.	2,703
Bisett, Charles F. and J. J., Tulsa	14
Bisett, Lytle & Gray, Tulsa	5,668
Black, E. F., Tulsa	1,635
Black, George E., Los Angeles	24
Black, J. J., Phoenix, Ariz.	150
Black, L. E., Okmulgee	5,606
Black, Sivalls & Bryson, Inc., Bartlesville	1,843
Blackstone Oil Co., Tulsa	2,326
Blackwell Oil & Gas Co., Blackwell	253,521
Blakeslee, H. W., Nowata	2,042
Bloch Oil Co., Tulsa	1,099
Blum Oil Co., Nowata	73
Boesche, F. W. C., Coffeyville, Kans.	654
Boeschlin, A. E., Warren, Pa.	208
Bole, George S., Tulsa	103,605
Boles, Neal & Perry, Cleveland	966
Bolivar Run Oil Co., Tulsa	1,274
Bonnell, John H., Grand Rapids, Mich.	1,807
Boop, George T., Nowata	30
Boop, Sitz & Calvert, Nowata	279
Borealis Oil Co., Oklahoma City	36
Bovaird, W. M., Sapulpa	5,027
Braden Co., The, Tulsa	700
Braden & Moore, Tulsa	15,986
Braden & Myers, Tulsa	1,471
Braden, Myers & Clinkscales, Tulsa	1,123
Braden, Overton & Braden, Tulsa	5,236
Bradfield, C. H., Tulsa	1,432
Bradley, E. A., Anna, and A. E., Tulsa	2,219
Bradnorking Oil & Gas Co., Tulsa	1,087
Bradstreet, J. G., & Co., Tulsa	686
Brady, E. H., Tulsa	388
Brady, E. H., Fred and John Swanson and Dan Kelly, Tulsa	1,446
Brandes Oil Co., Nowata	121
Brann, James, Bartlesville	2,910
Brann, James, Receiver, Bartlesville	1,585
Branson & Harmon, Nowata	1,392
Breene, Frank M., Tulsa	1,886
Breene, Frank M., et al, Tulsa	9,545
Breene, Mabel V., Tulsa	93
Brewer, R. C., Receiver, Chelsea	793
Bridgman Oil Co., Nowata	202
Bright, Samuel, Okmulgee	320
Britton-Johnson Oil Co., Tulsa	13,796
Brothers Oil Co., Inc., Tulsa	121
Brown, Charles H., Oklahoma City	23
Brown, L. H., Karns City, Pa.	177
Brown, Robert D., Trustee, Kansas City, Mo.	4,526
Brown, Guy Oil Co., Wichita Falls, Tex.	6,325
Brownlee, Mitchell & Kellough, W. A. Brownlee, Trustee, Tulsa	733
Bruen, Rigdon & Bruen, Kansas City, Mo.	306
Brundred Oil Corp., Oil City, Pa.	1,976
Bruner, A., Tulsa	512
Bruner Oil Co., Independence, Kans.	643
Bryan, J. S., Oklahoma City	4,444
Bucher, P. O., Bartlesville	574
Buckies, C. O., Tulsa	6,691
Bull Head Oil Co., Ardmore	9,580
Burke & Greis, Tulsa	1,127
Burke-Grein Oil Co., Tulsa	1,839
Burke-Hoffeld Oil Co., Tulsa	28,610
Burns, J. R., Lawton	476
Burton-Springfield Oil Corp., Tulsa	9,023
Buttram Pet. Corp., Oklahoma City	14
Bynum, Maude A., et al, Tulsa	1,042
Cabin Valley Mining Co., Chelsea	2,090
Cala Belle Oil Co., Cement	1,468
Callahan Oil Co., Omaha, Neb.	345
Callihan, W. F., (by J. H. Wright, Atty.-in-fact), Sapulpa	100
Campbell, H. B., Welch	195
Campbell, H. C., Nowata	2,470
Campbell, H. L., Nowata	615
Campbell, H. L., Trustee, Nowata	491
Campbell, Nevlin, Bartlesville	221
Campbell Oil Co., Tulsa	4,144
Campbell & Wolford, Tulsa	748
Canada Oil Co., Nowata	416
Canadian Producing Corp., Inc., D. L. Owsley and W. L. Walker, Receivers, Tulsa	11,610
Canadian U. S. Oil & Ref. Corp., Chicago, Ill.	1,239
Canary, J. D., Littleton, Colo.	5,923
Canary, S. C., Tulsa	8,294
Canary & Canary, Littleton, Colo.	2,474
Canfield, G. W., Yale	943
Canterbury S. L., Bristow	4,068
Carey Oil & Gas Co., Wellsville, N. Y.	389
Carlock & Dexter, Ardmore	1,313
Carmen, George S., Trustee, Bristow	5,817
Carmen, Akin & Argue, Bartlesville	922
Carpathia Pet. Co., Tulsa	17,466
Carr, J. M., Okmulgee	433
Carr, M. L., Okmulgee	3,921
Carter, S. L., Plattsburg, Mo.	271
Carter Oil Co., The, Tulsa	2,065,480
Cassidy, Alice M., Admrx., Guthrie	5,412
Catlett, J. G., Tulsa	36
Catlett-Davis Oil Corp., Tulsa	138
Central National Oil Co., Okmulgee	9,494
Central Pet. Co., Tulsa	9,749
Central Union Oil Co., Tulsa	1,055
Chaifant, C. C., Trustee, Pittsburgh, Pa.	849
Chamberlain, H. G., Marietta, Ohio	345
Champlin Refining Co., Enid	25,770
Chandler Oil Co., Bartlesville	506
Chestnut & Smith Corp., Tulsa	16,157
Chief Drilling Co., Okmulgee	1,937
Clark, L. P., Independence	233
Clarke, Maurice G., Muskogee	417
Clarion Oil Co., Houston, Tex.	4,920
Claymo Oil & Gas Co., Clayton, Mo.	632
Clifton & Wise, Sapulpa	127
Cline, A. W. Co., Okmulgee	681
Cline Oil Co., Wichita Falls, Tex.	521
Clover, Marvin K., Tulsa	1,718
Cobleigh & Shipman, Bartlesville	491
Coe, R. W., Ardmore	1,703
Coe, R. W., Trustee, Ardmore	22,474
Cohen, Aaron, Baltimore, Md.	5,334
Cohn, M. M. and D., New York	90
Coker, J. M., Claremore	139
Cole Oil Co., Tulsa	82
Coline Oil Co., Oklahoma City	159,762
Collins, Ida M. and Ray M., Tulsa	827
Collis Oil Co., Vinita	3,609
Columbia Pet. Co., Oklahoma City	2,856
Comar Oil Co., St. Louis, Mo.	2,402,026
Commerce Pet. Co., Tulsa	293
Commercial Drilling Co., Tulsa	1,251
Commonwealth Oil Co., Warren, Pa.	1,105
Compton, O. W., et al, Independence, Kans.	298
Congress Oil Co., Kansas City, Mo.	134
Connelly, E. L., Tulsa	180
Connelly, E. L., et al, Tulsa	4,839
Connelly, G. W., Caney, Kans.	2,457
Connelly, W. C., Tulsa	2,204
Conner, B. C., Tulsa	17
Constantin, C., Pawhuska	1,071
Continental Oil Co., Bristow	5,926
Continental Oil & Ref. Co., Independence, Kans.	3,728
Cook, George W., Lawton	3,196
Coombs Oil, Gas & Land Co., Bartlesville	1,137
Co-operative Oil Co., Ponca City	141
Cora Exploitation Co., St. Louis, Mo.	891
Corona Oil Co., Tulsa	7,663
Coronado Oil & Gas Co., Cleveland	4,347
Correne Oil Co., Tulsa	2,589
Cory, L. L., Fresno, Cal.	61
Cosden, J. S., Tulsa	12,306
Cosden Oil & Gas Co., Tulsa	628,232
Cowham, H. I., Independence, Kan.	238
Cowles, La Monte, Burlington, Iowa	414
Cox, Frank, Portland, Ore.	100
Cox, John W., Tulsa	15
Cozart Oil Co., Blackwell	4,266
Craig, D. F., Independence, Kans.	178
Crandall, Hector, et al, Title Guarantee & Trust Co., Trustee, Tulsa	522
Crawford, J. W., Jr., Tulsa	2,555
Creekmore, Morrison & Wolfe, Tulsa	326
Cremse Oil Co., Bartlesville	156
Creo Oil Co., Tulsa	16,237
Crescent Oil Co., Bartlesville	804
Crews Estate Oil & Gas Prod., Covington	23,031
Criswell, Georgia B., Haskell	377
Critchlow, W. S., Ardmore	1,334
Cromwell Oil & Gas Co., Okmulgee	13,544
Crosbie, Davis, Sloan & Sturm, Tulsa	2,260
Crosbie, Gillespie Gasoline Plant, Tulsa	5,054
Crosbie, Sturm & Davis, Tulsa	3,166
Crump & Beard, Duncan	6,183
Cruce & Potter, Ardmore	1,697
Cruce-Smith-Cruce, Ardmore	3,955
Cudahy Oil Co., The, Cleveland, Ohio	28,995
Cumberland Oil & Gas Co., Muskogee	607
Cumberland Pet. Co., Cleveland, Ohio	4,939
Curtis & Aiken, Tulsa	1,353
Curtis, W. L. Co., Elmira, N. Y.	382
Curtis, W. L. Co. and F. M. Aiken, Elmira, N. Y.	1,988
Cushing Gasoline Co., Tulsa	16,344
Custer Oil Co., Okmulgee	1,171
Czarina Oil Co., Ardmore	1,167
Daisy Belle Pet. Co., Ardmore	14,533
Dallas Co., The, Tulsa	7,502
Damon Oil Co., Tulsa	3,432
Dana Oil Co., Bartlesville	877
Davis, C. P., Bristow	4,702
Davis, Joseph D., Tulsa	467
Davis, L. R., Tulsa	1,552
Davis, R. D., Cleveland	911
Davis & Younger Oil Co., Oklahoma City	3,421
D. C. F. S. & Co., Ardmore	1,330
Dean, John, Estate, Guthrie	1,320
Deems, H. C., Tulsa	702
Deep Fork Oil Co., Marietta	1,960
Deep Rock Oil & Ref. Co., Chicago, Ill.	56,557
Dekoma Development Co., Tulsa	644
Delokee Gas & Oil Co., Bartlesville	1,742
Delmar Oil Co., Bartlesville	128,758
Dennis, Hyer E., Boynton	27
Denver Producing & Refining Co., Okmulgee	20,107
De Soto Gasoline Co., Beaumont, Tex.	1,122
De Vinna, M. A., Tulsa	563
Devonian Oil Co., Tulsa	75,018
Diamond, Harry H., Oil Co., Holdenville	778
Dick, John, Buffalo, N. Y.	155
Dickenson, W. O., Tulsa	1,675
Dickenson, W. O., Co., Oklahoma City	873
Dierks, Fred H., Trustee, Kansas City, Mo.	3,421
Dixie Oil Co., Cement	6,429
Dixie Oil Co., Inc., Shreveport, La.	632,467
Dock Oil & Gas Co., Bartlesville	716
Dolman, L. S., Walter H. Gant and S. W. Tyer, Ardmore	19,701
Dominion Oil Corp. of Oklahoma, Sand Springs	327
Donahue, W. J. and K. D., Bartlesville	187
Doris Oil & Gas Co., Tulsa	845
Douglass, Harvey, Atty., Chelsea	359
Dover Oil Co., Bartlesville	757
Drew, Byron, Ardmore	171
D. & S. Oil & Gas Co., Tulsa	1,139
Duffield, Lewis C., Tulsa	563
Duffield & Howard, Tulsa	3,581
Duffield, L. C., and H. R. and Catherine Straight, Tulsa	6,313
Dunn, J. J., Okmulgee	634
Dunn Oil Co., Tulsa	587
Dunn Mineral Trust, Ardmore	6,462
Dunnington, A. S., Tulsa	144
Dwyer, J. D., Tulsa	8,560
Eagle Oil & Gas Co., Lyons, Kans.	38
Earltex Pet. Co., E. S. Hall, Receiver, Duncan	443
Eason, T. T., Enid	398
Eastern Oil Co., Buffalo, N. Y.	99,171
Ebling, L. R., & Co., Bartlesville	2,166
Echo Oil Co., Tulsa	25,857
Edgington, L. D., Hominy	372
Eliza Tim Oil Co., Sapulpa	300
Elk Oil Producing Co., Tulsa	365
Elliott, W. C., Tulsa	378
Elliott & Smith, Tulsa	7,872
Elliott & Vensel, Tulsa	11,325
Elm Oil Co., Tulsa	1,854
Elmer Oil Co., Elmira, N. Y.	2,963
Emery Bros., Bradford, Pa.	3,714
Emery, Lewis, Jr., & Sons, Bradford, Pa.	25,351
Empire Gas & Fuel Co., Delaware, Okla., Div., Bartlesville	198,947
Enfisco Oil Corp., Tulsa	15,874
Enid 80 Oil & Gas Co., Enid	395
Enterprise Transit Co., Titusville, Pa.	4,962
Essano Oil Co., Tulsa	1,249
Eureka Oil & Gas Synd., Omaha, Neb.	53
Exchange Oil & Gas Co., Tulsa	1,831
Exchange Trust Co., Receiver, Tulsa	330
Exchange Trust Co., Trustee, Tulsa	69
Fair, H. G., and J. F. Patterson and L. B. Norton, Okmulgee	43,296
Farmer, A. L., and A. E. Duran, Tulsa	725
Farren, C. F., Tulsa	1,756
Fay Drilling Co., Tulsa	755
Federal Oil Co., Cleveland	379
Fee Oil Co., Muskogee	337
Fellowship Oil & Drilling Co., Tulsa	389
Fernow, John, Jr., Tulsa	953
Fifty-Nine Osage Oil Co., Bartlesville	56,418
Finance Oil Co., Pawhuska	28,139
First National Bank, Chelsea	335
Fisher Oil Co., The, Pittsburgh, Pa.	2,033
Fitzgerald, D. C., Trustee, Ardmore	7,564
Fitzgerald, H. L., Tulsa	390
Fitzgerald & Withington, Tulsa	727
Flanagan & McGrath, Delaware	371
Flat Rock Oil Co., Tulsa	1,665
Flesher Pet. Co., Tulsa	58,233
Flora Okla Oil Co., Cement	1,689
F. & N. Oil Co., Tulsa	2,892
45 Oil Co., The, Chicago, Ill.	2,401
45 Oil Co., The, and E. S. Bell, Chicago, Ill.	6,838
Force Oil Co., Tulsa	147
Forster, S. F., Dallas, Tex.	1,308
Forster, Laney & Swain, Bartlesville	294
Fort Ring Oil & Gas Co., Fort Worth, Tex.	5,838
Fortuna Oil Co., Dallas, Tex.	104,703
Foster, H. V., Bartlesville	28,957
Foster, H. V., and Foster & Davis,	

Through Shale and Snow in Zero Weather!



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It is not unusual for companies using Buckeyes to do a mile of pipe line a day. With a small crew a Buckeye can be kept going 24 hours a day. The work is done faster and at less cost.

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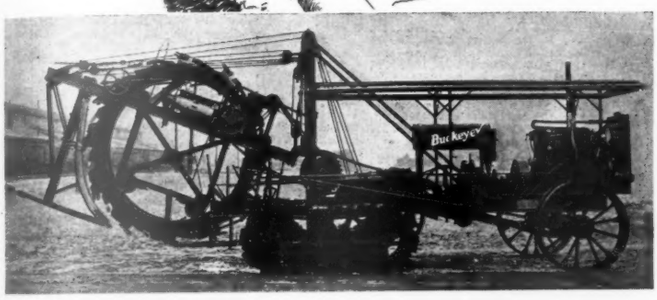

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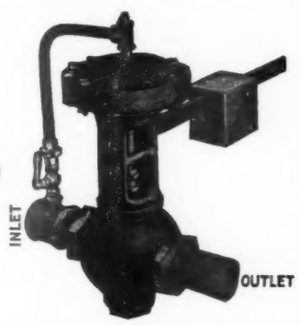

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When the pressure has fallen to a lower point than is considered advisable by means of

The Fulton Back or Check Pressure Regulator

This regulator is placed in the pipe line and automatically controls the flow of gas.

The pressure at which the regulator is desired to operate can be varied as may be desired.

All back pressure regulators are provided with a lever which is balanced on a knife-edge fulcrum and supports the valve by means of a toggle connection, which reduces friction and insures quick response to the slightest change of pressure.

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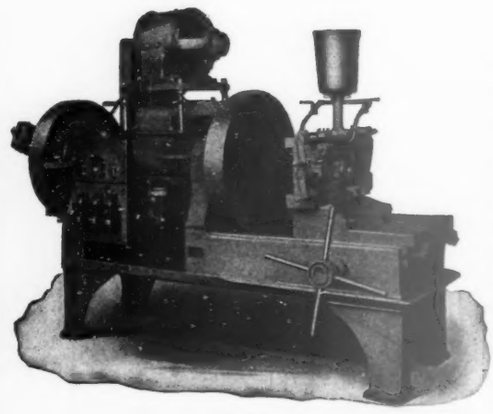

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Inc., Bartlesville	1,096
Foster Investment Co., Tulsa	43,732
Foster & Davis, Inc., Bartlesville	14,954
Foster & Leech, Bartlesville	125
Fox Pet. Co., Ardmore	5,533
Franchot, D. W., & Co., Tulsa	36,289
Francis, W. C., Skiatook	228
Franklin, Wirt, Ardmore	45,263
Franklin, Wirt, and The Carter Oil Co., Ardmore	39,780
Franklin Oil Co., Franklin, Pa.	606
Franklin Oil & Development Co., Nowata	1,086
Freeborn, F. W., Engineering Corp., Tulsa	1,107
Freeland, C. L., Trustee, Bristow	2,256
French, M. C., Okmulgee	1,300
Friedman, Loues, Tulsa	414
Friedman, Loues Oil Co., Tulsa	1,639
Frost, D. E., Stevens Point, Wis.	622
Furlow Development Co., Enid	7,224
Gaffney, H. E., H. B. and Olive, Bradford, Pa.	10,835
Galbraith, H. H., et al, Independence, Kans.	4,013
Gamo Oil Co., Claremore	434
Ganas, John, Pawhuska	607
Gant, Walter H., Ardmore	3,920
Gardner & Avery, Tulsa	315
Gardner Oil Co., Tulsa	119
Gardner Pet. Co., Tulsa	35,577
Garis, Ralph, Chelsea	50
Garnett, M. R., Agent, Nowata	115
Gartner, J. L., Tulsa	1,375
Gates Oil Co., Ardmore	41,238
Gates Oil Co., Denver, Colo.	3,132
Gates-Cook Drilling Co., Okmulgee	764
Gatewood, Guy, Bartlesville	99
Gatewood, Pearl A., Bartlesville	98
Geneva Pearl Oil & Gas Co., Ardmore	4,616
Genevra Oil Co., The, Bartlesville	623
Georgia Oil & Gas Co., Copan	3,652
Getzendaner, R. W., Waxahachie, Tex.	1,478
Getty, George F., Tulsa	9,215
Getty, George F., et al, Tulsa	862
Ghormley Oil & Gas Co., Coffeyville, Kans.	147
Giddings, F. C., W. H. Gray, A. B. C. Dague, Charles F. Egan and R. A. Welch, Tulsa	1,458
Gilbert, D. Lawrence, Glendale, Cal.	328
Gilbert, N. T., Special, Tulsa	1,798
Gilchrist, H. M., Bartlesville	1,159
Gilcrease Oil Co., Tulsa	5,826
Gillespie, Joe, Coffeyville, Kans.	59
Gillespie, F. A., & Sons Co., Tulsa	25,642
Gillette, J. M., Tulsa	758
Gilliam, S. H., Trustee, Okmulgee	3,532
Gilliland Oil Co., Tulsa	74,329
Gilmer Oil Co., The, Ardmore	38,912
Gladstone Oil & Ref. Co., Shreveport, La.,	10,059
Glasco Oil Co., Sapulpa	15,725
Glass, J. Wood, Nowata	271
Glass, Reed & McSpadden, Nowata	924
Glass & Weaver, Nowata	79
Gled Oil Co., Tulsa	135
Godfrey, F. L., Enid	1,572
Goldie Oil & Gas Co., Kansas City, Mo.	1,138
Goodyear Oil Co., Tulsa	4,677
Graham, J. H., Bartlesville	5,945
Grand Duke Producing Co., Muskogee	1,411
Gray, William D., Tulsa	1,375
Great Lakes Oil & Gas Co., McAlester	294
Great Southwestern Pet. Co., Oklahoma City	735
Greenfield Trust, The, Rock Island, Ill.	1,093
Gregg, C. O., Ardmore	4,447
Greis, H. N., Tulsa	135
Grieves, John B., Teriton	4,044
Griffin Producing Co., The, Tulsa	2,951
Griffith, R. F., Trustee, Tulsa	2,355
Grimes, W. Baker, Tulsa	282
Grimes & Elliott, Tulsa	397
Grimes, Elliott & Blair, Tulsa	135
Grimes, Blair, et al, Tulsa	600
Grimes & Gillespie, Tulsa	9,954
Grimes, Parent, Gillespie & Dickson, Tulsa	250
Gurley, H. S., Blackwell	3,129
Gypsy Oil Co., Tulsa	3,130,141
Hadley, J. R., Tulsa	6,114
Halco Oil Co., Tulsa	964
Halden Oil Co., Tulsa	1,000
Hales, W. T., Oklahoma City	59,922
Halfast, E. W., Muskogee	356
Halfmoon Oil Co., Dewey	623
Hall, G. A., Bartlesville	133
Hall & Lucas, Duncan	1,380
Hamilton, W. R., Dewey	1,003
Hammat, D. W., & Co., Tulsa	1,500
Hammer, A. A., Tulsa	594
Hamon, Estate of Jake L., Ardmore	27,320
Hancock, W. E., Tulsa	752
Hancock Oil Co., Tulsa	679
Hancox, T. H., Tulsa	249
Hane, C. E., Agent, Tulsa	14,076
Haner, J. L., Muskogee	170
Haner Oil & Refining Co., Muskogee	360
Haney & Ewers & Sons, Coffeyville, Kans.	289
Hannis Oil Co., Tulsa	144
Harberson, C. C., and R. M. Jones, Trustee, Kansas City, Mo.	2,101
Harding Oil & Gas Co., Chelsea	124
Harland Oil Co., Pittsburgh, Pa.	28,454
Harlin, E. C., et al, Welch	97
Harmon, C. C., Nowata	1,232
Harrington, Lillian F., Tulsa	308
Harrington, Williams, Marietta, Ohio	174
Harrington, W. J., Coffeyville, Kans.	1,838
Harris, J. A., Jr., Trustee, Philadelphia, Pa.	246
Harris, Mrs. L. C., Rising Sun, Ind.	248
Harris, T. D., Okmulgee	487
Harris, T. D., Trustee, Okmulgee	47
Harris, Haun & O'Shaughnessy, Blackwell	2,336
Harris-Strawn Oil Co., Ardmore	4,588
Harrivo Oil Co., Oklahoma City	2,347
Harvey, Phil P., Coffeyville, Kans.	201
Hartman & Mann, Pittsburgh, Pa.	277
Harwell, E. P., Tulsa	6,711
Haskell, F. K., Bartlesville	214
Haskell, F. K., Agent, Bartlesville	2,088
Hastings, W. T., Marietta, Ohio	345
Hatch, G. W., Nowata	213
Haubert, H. J., Tulsa	254
Hayden, John F., Tulsa	932
Hayner Pet. Co., Tulsa	1,297
Hazen, Irvin R., Agent, Chicago, Ill.	5,706
Hazlett, A. G., Morris, Okla.	966
Hazlett, Bradford & Frazier Bros., Eldorado, Kans.	3,230
H. C. W. Oil Co., Chelsea	429
Healdton Field Oil Co., El Reno	1,033
Healdton Oil & Gas Co., Enid	214,393
Heart, J. Foss, Bartlesville	629
Hector Oil Co., Bartlesville	82
Hector Oil Co., M. W. Alworth and A. Miller McDougal, Bartlesville	77
Heenan, J. A., Ardmore	1,703
Hefney Co., The, Ardmore	1,703
Heggem & Davis, Tulsa	1,574
Henderson Co., The, Nowata	67
Henderson & Holden, El Dorado, Kans.	586
Hennessey, J. E., Okmulgee	1,764
Henry Oil Co., The, Tulsa	15,362
Henry & Avers, Tulsa	1,370
Henton, E. L., et al, Chelsea	1,577
Henton & Weible, Chelsea	503
Hertzel, F. L., Warren, Pa.	1,314
Hewitt Mineral Trust, Ardmore	2,421
Hibbard, S. B., S. S. Glasscock, and John B. Hammond, Kansas City, Mo.	3,471
Hickernell, G. W., Trustee, Warren, Pa.	504
Higgins Oil & Fuel Co. and Pulaski Oil Co., Tulsa	2,788
Highway Oil Refining Corp., Tulsa	2,171
Hildreth, W. A., Drumright	10
Hill Oil & Gas Co., Tulsa	207,565
Hillside Oil Co., Parkersburg, W. Va.	3,368
Hinerman & Marshall, Tulsa	6,013
Hinkle, F. V., Okmuigee	9,921
Hippodrome Oil Co., Tulsa	1,115
Hisom Oil Co., Kellyville	7,158
Hiteshew, W. B., Trustee, Robinson, Ill.	659
Hivick, L. C. and J. P., Ardmore	1,078
H. & M. Pet. Co., Tulsa	1,749
Hoge, J. B., Nowata	241
Hojoco Oil Co., Tulsa	191
Hollingsworth, George C., Receiver, Ardmore	2,004
Hollingsworth, H. L., Brown & Baxter, Broken Arrow	111
Holm, Coombs & Chapman, Bartlesville	888
Holmes, Walter E., Tulsa	2,599
Holmes, Benjamin F., & Co., Lyons, Kans.	555
Holmes Oil Co., The, Lyons, Kans.	134
Holtzendorff, C. B., Claremore	15
Homaokla Oil Co., Oklahoma City	33,108
Home Gas Co. of Cushing, Cushing	21,450
Hoot Oil Co., Warren, Pa.	34
Hornecker, Henry, Tulsa	1,155
Hornecker & Graham, Tulsa	328
Hornecker & Hagler, Tulsa	2,338
Hornecker, Frederick & Hagler, Tulsa	81
Hornecker, Miller & Dunnigan, Tulsa	201
Horner, W. H., Cleveland	266
Horrigan, B. D., Ardmore	316
Horsley, Thos. J., Wewoka	183
Houser, M. A., Tulsa	469
Howard, O. R., Tulsa	3,391
Howard, Duffield & Berlin, Tulsa	7,540
Howarth, Floyd Oil & Gas Co., Tulsa	12,457
Huckleberry, J. H. No. 4, Kansas City, Mo.	17
Hudson Oil Co., Wellsville, N. Y.	230
Hudson, Grimes et al, Tulsa	434
Hughes, M. S., Bristow	714
Hughes, Roland A., Cygnet, Ohio	447
Hughes, R. H., Tulsa	159
Hughes & Schwyn, Cygnet, Ohio	589
Hughes, Solether & Brecht, Cygnet, Ohio	425
Hughes-Weatherford Oil Synd., Dallas, Tex.	476
Hulen, H. E., Bartlesville	1,299
Hulings, F. W., Okmulgee	498
Hulings, F. W., Trustee, Okmulgee	252
Hulings, M. C., Tulsa	219
Hulings, F. W., and D. M. Smith, Okmulgee	461
Hull, J. A., Tulsa	283
Hull, J. A., Co., Tulsa	21,409
Humble Oil & Refining Co., Houston, Tex.	280,033
Hummel, Chas. S., Chelsea	549
Humnicutt, Hugh, Hominy	1,318
Huntley Oil Corp., Pittsburgh, Pa.	1,673
Hurdle, H. J., Mounds	162
Hutch Oil & Gas Co., The, Kansas City, Mo.	899
Hutt, Mrs. Annie M., Fort Worth, Tex.	353
Hutt, E. F., Kansas City, Mo.	353
Hutt, J. E., Kansas City, Mo.	353
Hyden, Arch H., Tulsa	163
Hyman, T. J., Chicago, Ill.	67
Ideal Oil & Gas Co., Ardmore	2,867
Ideal Royalty Co., Tulsa	2,055
Illata Oil Co., Vinita	203
Illinois Oil Co., Chicago	1,600
Imo Oil & Gas Co., Covington	9,636
Independence Oil Co., Independence, Kans.	2,121
Independent Oil & Gas Co., Okmulgee	152,300
Indian Territory Illuminating Oil Co., Bartlesville	50,943
Indiana Oil & Gas Co., Tulsa	27,438
Interstate Oil & Gas Co., Bartlesville	4,824
Invader Oil Corp., Muskogee	4,041
Irelan, O. M., Sapulpa	4,879
Iron Mountain Oil Co., The, Tulsa	50,355
Irvine, James, Sapulpa	300
Irwin, John S., Bartlesville	1,124
Irwin, Miller, Bartlesville	1,170
Jackson, L. B., Sapulpa	1,753
Jackson, Wise & Bovaird, Sapulpa	2,400
Jackson, Wise & Markham, Sapulpa	9,783
Jackson, Wise & Snedden, Sapulpa	1,469
Jameson, John B., Concord, N. H.	4,477
Jankowsky, Mose, Tulsa	4,335
Jarvis, P. C., Kirol R. Holm and	

Darby Pet. Corp. of New York, Tulsa	1,647
Jeff Oil Co., Chelsea	460
Jeffrey, E. B., Oklahoma City	3,644
Jellnek, John, Nowata	124
Jennings, E. H. Bros. Co., Pittsburgh, Pa.	2,391
Jennings, R. G., Pittsburgh, Pa.	4,462
Jennings, R. G., Snowden & McSweney Co., New York	5,206
Jess-Marie Oil Co., Ponca City	2,642
Jesson, H. H., Tulsa	616
Jesson, P. W., Chelsea, Okla.	384
Jewel Oil Co., P. J. Lang, Trustee, Tulsa	129
Jim-Glenn Oil Co., Tulsa	9,908
Jitney Oil Co., Tulsa	135
Johnson, J. Alfred, Ardmore	882
Johnson, Mrs. C. L., Kansas City, Mo.	116
Johnson, W. B., Okmulgee	51
Johnson Farm Oil Co., Warren, Pa.	1,185
Johnson Oil Refining Co., Chicago, Ill.	647
Jolly, W. A., Okmulgee	117
Jones, C. S., Tulsa	1,375
Jones, R. C., Cushing	785
Jordan, E. W., Nowata	71
Jordon, F. G., et al, Okmulgee	658
Josey Oil Co., Tulsa	29,596
Kanole Oil & Refining Co., Tulsa	7,538
Kansas, H. E., Independence, Kans.	71
Katy Oil & Gas Co., Bartlesville	1,581
Kay County Gas Co., Ponca City	105,851
Kay Oil Co., Blackwell	1,307
Kay & Kiowa Oil Co., Tulsa	3,355
Keeche Oil & Gas Co., Oklahoma City	1,060
Keenan, J. R., Tulsa	29
Keener Oil & Gas Co., Tulsa	38,286
Keith, J. H., Coffeyville, Kans.	152
Keller, Will, Agent, Nowata	38
Kemp, E. F., Estate, Tulsa	1,667
Kennedy, H. W., Tulsa	1,722
Kennedy, J. L., Estate, Tulsa	340
Keno Oil Co., The, Tulsa	4,389
Kerull Oil Co., Tulsa	6,483
Kewanee Oil & Gas Co., Titusville, Pa.	104,180
Keystone Oil & Gas Co., Independence, Kans.	130
King Brothers, Okmulgee	9,691
King, C. A., Nowata	45
King, C. A., Trustee, Nowata	347
King, C. A., and Fred Gum, Nowata	259
King, Dan G., and Roger F. Watson, Okmulgee	149
King, Frank, Okmulgee	1,063
King & Harrington, Tulsa	341
King Philip Oil Co., New Bedford, Mass.	596
Kingwood Oil Co., Okmulgee	46,058
Kinney, George, Trustee, Tulsa	22,292
Kinney, George, and C. W. Kingsbury, Sand Springs	199
Kinney, George, C. W. Kingsbury, C. F. Tingley and E. M. Monsell, Sand Springs	3,010
Kinney, George, C. W. Kingsbury, C. F. Tingley and C. B. Stuart, Sand Springs	400
Kinney-Wood-McIntyre, Tulsa	275
Kirk Oil Co., Ardmore	33,856
Kirkwood, C. W., Trustee, Tulsa	8,450
Kirkwood & Kennedy, Tulsa	537
Kistler, Emily, Tulsa	356
Knappenberger, D. L., Sapulpa	138
Knappenberger, W. E., Tulsa	138
Knickerbocker Oil Co., Tulsa	2,748
Knupp Oil Corp., Warren, Pa., and Phillips Pet. Co., Bartlesville	902
Knupp Oil Corp., J. J. Lubell and Kanaome Oil & Gas Co., Warren, Pa.	1,271
Kohlenberg, W. C., Sapulpa	38
Kraeer, O. A., & Co., Bartlesville	2,786
Kuhns, J. H., Tulsa	1,901
Kunkel, W. A., Bluffton, Ind.	197
Lahman Bell Oil Co., Dewey	679
Lamb, C. H., Tulsa	34
Lambert, E. J., Tulsa	2,965
Lambert, W. J., Estate, Tulsa	113
Lambert Oil & Gas Co., Tulsa	8,387
Lamberton & Wilcox, Tulsa	47
Lancaster & Grimes, Tulsa	424
Landon, A. M., Independence, Kans	7,934
Lane, E., Nowata	2,039
Lane & Wasson, Ardmore	5,792
Lane Oil Producing Co., Chicago, Ill.	3,060
Larkin, J. J., Tulsa	356
Larkin & Reynolds, Bartlesville	3,130
Larkin Oil Co., Tulsa	71
Laskley, Edmund, Tulsa	110
Lawrence Petroleum Co., Tulsa	721
Lawson & Cowles, Nowata	970
Lawson, E. B., Nowata	22,236
Lawson & Mancill, Nowata	207
Lawson & Reed, Nowata	400
Lawson & Whitehill, Nowata	3,683
Lawson, E. B., and Sunset Producing Co., Nowata	295
Lawton Corp., Oklahoma City	1,658
Layton Oil Co., Tulsa	842
Lea Drilling Co., Tulsa	767
Leard, J. K., Okmulgee	912
LeBosquet, J. E., Tulsa	80
Lebow, M., Tulsa	617
LeFever, M. M., Marietta, Ohio	427
Lennox Oil & Gas Co., Lennox, S. D.	494
Lenox Oil Co., Okmulgee	52
Leonard Pet. Co., Washington, Pa.	2,617
Leopold & Brett, Muskogee	358
Leuch, F. Howard, Lockport, N. Y.	151
Leuh, J. C., Guthrie	677
Levant Oil Co., Ardmore	21,964
Levy, I. B., Trustee, Oklahoma City	6,841
Lewis-Clarke Pet. Co., Oklahoma City	15,978
Lewis Oil Co., Pittsburgh, Pa.	18,997
Liberty Oil Co., Inc., George R. Bennett, Trustee in Bankruptcy, Wichita, Kans.	1,401
Lichtning Creek Oil & Gas Co., Wellsville, N. Y.	386
Lima Oil & Gas Co., Bartlesville	5,247
Lincoln Oil & Gas Co., Tulsa	3,043
Link Oil Co., The, Tulsa	25,950
Lippe, Arthur, Tulsa	86
Little Fay Oil Co., Tulsa	20,994
Little Frank Oil Co., Tulsa	8,854
Livingston Oil Corp., Tulsa	3,674
Loar, W. N., & Co., Okmulgee	2,634
Local Oil Co., Warren, Pa.	1,353
Lomore Oil Co., Ardmore	3,662
Lone Star Gas Co., Dallas, Tex.	48,910
Lorraine Pet. Co., Tulsa	142,399
Louvanian Oil Co., Bartlesville	903
Lovell, Dot L., Guardian of Paul Lovell and Dot L. Lovell, Admrx. Paul Lovell, Estate, Marietta, Ohio	1,100
Lovell, J. A., Marietta, Ohio	422
Lovell Oil Co., Nowata	1,299
Lowrie & Barnes, Robinson, Ill.	255
Lowrie, Barnes & Titus, Robinson, Ill.	1,988
Lowry Oil Corp., Muskogee	5,673
Lucado Oil & Gas Co., Coffeyville, Kans.	287
Lucky Scott Oil & Gas Co., The, Independence, Kans.	1,138
Ludey, Chas. A., Marietta, Ohio	3,917
Lynch, C. B., & Co., Tulsa	1,995
Lyons Pet. Co., Denver, Colo.	40,182
McAllister, C. T., Sapulpa	75
McBrayer, T. H., Okmulgee	136
McBride, W. C., Inc., St. Louis, Mo.	3,034
McCaskey, J. G., and C. E. Wentz, Trustee, Ponca City	614,459
McClellan, J. C., Drumright	260
McClintock, H. H., Trustee, Bartlesville	2,546
McClintock, R. Otis, Tulsa	745
McConnell, Mrs. Grace M., Oklahoma City	172
McCormick, J. A. Trustee, Muskogee	1,040
McCormick, Matt, No. 2, Nowata	74
McCullough, E. E., Muskogee	438
McCully Oil & Gas Co., Hominy	577
McDonald, J. H., Muskogee	397
McDonnell, A. D., A. C. Lipsitz, L. Borinstein, W. T. Schafer and James Kennedy, Tulsa	318
McDonnell, A. D., John Swanson, A. C. Lipsitz and L. Borinstein, Tulsa	104
McFarlin & Chapman, Tulsa	572
McGill, H. R., Tulsa	2,436
McGuire, F. H., Guthrie	237
McKeon, P. G., Tulsa	2,703
McKes & McFarland, Ardmore	53
McKes Oil & Gas Co., Ardmore	2,728
McKinney, J. E., et al, Tulsa	3,634
McKinney, John E., Estate, Tulsa	1,104
McKinney, John E., Estate, and Frank M. Breene, Tulsa	4,346
McLane Farm Oil Co., Tulsa	1,299
McMahon, D. F., Tulsa	45
McMahon, J. L., Wichita Falls, Tex.	137
McMan Oil & Gas Co., Tulsa	123,821
McNutt, J. P., and A. L. Davis, Morris	348
McOwen, Bernard, Estate, Buffalo, N. Y.	1,121
McSpadden, T. R., Nowata	2200
MacMullen, G. W., Co., Tulsa	889
Mack Oil & Gas Co., Bartlesville	433
Magna Oil & Refining Co., Tulsa	9,930
Magnolia Pet. Co., Dallas, Tex.	1,606,652
Magnolia Pet. Co. for Wallace & Coogan, Dallas, Tex.	428
Maire Bros. & Ebling, Bartlesville	3,300
Malernee & Dunlap, Walters	6,732
Mc-Lou Oil Co., Pittsburgh, Pa.	3,949
Mallory, J. F., and J. N. Stewart, Parkersburg, W. Va.	507
Mallory & Co., Tulsa	319
Man, S. A., Wichita Falls, Tex.	4,675
Mancill, H. E., Bartlesville	71
March Oil Co., Tulsa	13,589
Margay Oil Corp., Tulsa	37,978
Margulies, L. J., D. E. Sanders and W. M. Hiler, Tulsa	1,222
Marietta Oil Co., The, Marietta, Ohio	2,094
Mark, Clayton, Muskogee	165
Markham, J. H., Jr., Tulsa	23,765
Markham, J. H., Jr., et al, Tulsa	18,914
Marland Refining Co., Ponca City	426,937
Marshall Oil Co., Nowata	178
Marshall Oil Co., Tulsa	333
Martin, Emma L., Fresno, Cal.	64
Martin, L. J., Tulsa	277
Martin & Nelce, Tulsa	4,690
Martin, S. A., Oil Co., Chelsea	1,042
Mason, D. B., Tulsa	21,956
Matteson, Chas. D., St. Paul, Minn.	653
Maxson, E. E., Trustee, Owasso	903
Maxwell, D. G., Bartlesville	1,437
May, J. T., and C. L. Benbow, Muskogee	8
Mead, C. J., Okmulgee	46
Mechling, C. A., Tulsa	392
Mechling & Berlin, Tulsa	2,826
Meissner, William H., Trustee, Tulsa	137
Melba Oil Co., Tulsa	3,259
Mercer Oil Co., Oklahoma City	457
Meridian Oil Co., Inc., Jennings, La.	123
Meridian Pet. Corp., W. A. Goforth, Receiver, Tulsa	25,742
Merrick, F. W., and R. W. Coe, Ardmore	17,134
Messner & Clough, Bartlesville	1,014
Mickleson, D. D., Trustee, Tulsa	866
Mickleson, D. D., Tulsa	969
Mid-Co. Pet. Co., James A. Green and Harry W. Gibson, Receivers, Tulsa	51,671
Midget Oil & Gas Co., Republic, Mo.	2,384
Midland Oil Co., Bartlesville	56,711
Midland Securities Co., Tulsa	12,963
Midnight Oil Co., Tulsa	289
Midwest Investment Co., Bristow	958
Minnehaha Oil Co., Menasha, Wis.	678
Minnehoma Oil Co., Tulsa	20,318
Minshall, E. R., Tulsa	2,656
Minshall Oil & Gas Co., Tulsa	2,605
Misener, F. D., Tulsa	599
Misener, F. D., et al, Tulsa	6,726
Mitchell, E. D., and C. D. Jenal, Tulsa	646
Mitchell, Mark D. & Co., Independence	669
Mitchell & Murrow, Independence, Kans.	224
Modern Oil Co., The, Wellsville, N. Y.	1,504
Modesitt Oil Co., Okmulgee	567
Moffett, John, Oklahoma City	243
Moffett, J. S., Los Angeles	299
Mohawk Pet. Co., Tulsa	4,068

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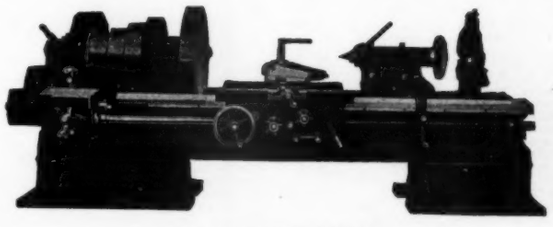

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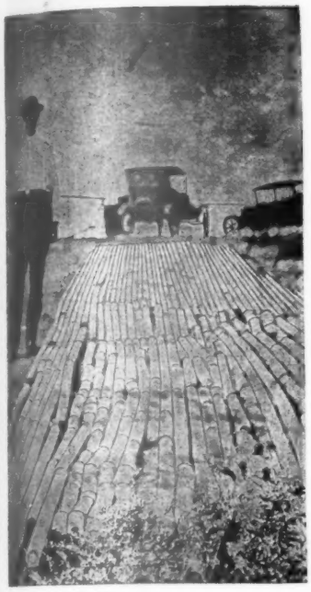
Montezuma Oil Co., Tulsa 756
Montrose Oil Refining Co., Inc., Shreveport, La. 569
Mooney & Holtzendorff, Claremore 478
Moore, Clint, Tulsa 21,854
Moore, Frank L., Tulsa 6,875
Moore, Mrs. G. E., Tulsa 661
Moore, Pet. Co., Tulsa 67
Morley, W., & Son, Bartlesville 300
Morrison & Jackson, Sapulpa 12,610
Morrison, James B., Tulsa 817
Morton & Co., Bartlesville 3,993
Morton Pet. Co., Bartlesville 2,327
Mosely, C. F., and wife, Bartlesville 3,765
Mosier, W. T., Pawhuska 193
Mound Oil & Gas Co., Tulsa 1,715
Mountain Creek Oil & Gas Co., Coweta 88
Mountain State Oil Co., Bartlesville 59,252
Mudge Oil Co., Pittsburgh, Pa. 22,370
Mullendore, Bessie, Cleveland 245
Mullendore, E. C., Cleveland 91
Mullendore, R. F., Hominy 139
Mummert Drilling Co., Ponca City 83
Mutual Oil Co., Denver, Colo. 11,708
Myers, C. M., Tulsa 702
Myers & Twichell, Okmulgee 7,060
Myers Oil Gas Co., Pittsburgh, Pa. 452
Nolan, D. D., Robinson, Ill. 59
Nancy Oil Co., Sapulpa 557
National Union Oil & Gas Co., Bartlesville 2,800
Neal, A. W., Bartlesville 37
Neely, The Lemon G. Co., Tulsa 7,083
Newbeck, W. L., Marietta, Ohio 263
Neustadt, Walter, Ardmore 9,713
New Haven Oil Co., Bartlesville 1,302
Newlin & Ludey, Tulsa 79
New Pocahontas Oil & Gas Co., Oklahoma City 311
Noble, Chas. F., Oil & Gas Co., Tulsa 25,004
North Baltimore Oil & Gas Association, Okmulgee 14,694
Northland Gasoline Co., Tulsa 4,976
Northrop, Mary Sells, Tulsa 131
Northrop Oil & Gas Co., Tulsa 515
Northrop, C. M., Farmington, N. M. 172
Norwood Oil Co., New York, N. Y. 13,470
Nowata National Bank, Acct. No. 5, Nowata 28
Nowata Oil & Refining Co., Tulsa 46,185
Niblack, L. G., Guthrie 201
Night & Day Oil Co., Lawton 1,001
Obins & Weber, Bartlesville 26,507
O'Connor, Martin, Portville, N. Y. 784
Octo Oil Co., Bartlesville 431
Odell, C. C., Morris 110
Offenbacher Pet. Co., Tulsa 68
Oglesby, Robert, Tulsa 3,499
Ohio-Cosage Oil Co., Ochelata 4,078
O'Hornett, C. J., Henryetta 1,853
Oklahoma Eastern Oil Co., Tulsa 125,298
Okla-Mexia Oil & Gas Co., Duncan 2,908
Oklahoma Missouri Development Co., St. Louis, Mo. 84
Oklahoma Natural Gas Co., Tulsa 416
Okla-Penn Oil Co., Tulsa 1,312
Okla-Texas Refining Co., Grandfield 22,849
Oklaken Oil Co., Okmulgee 4,202
Oklausa Oil Co., Jackson, Tenn. 320
Oklarado Oil Co., Okmulgee 881
Oklavania Oil Co., Tulsa 104,333
Okliana Oil Co., Okmulgee 11,160
Olean Pet. Co., Bristow 11,674
O'Neil Pet. Co., Milwaukee, Wis. 376
Oregon Oil Co., Tulsa 313
O'Rourke, Ed, Tulsa 4,484
O'Rourke, E. W. Tulsa 4,481
O'Rourke, Tom, Tulsa 4,484
Osage Allegheny Oil Co., Bartlesville 377
Osage Arrow Oil Co., Ponca City 1,657
Osage Development Co., Bartlesville 11,141
Osage Producing & Refining Co., Bartlesville 5,156
Oswego Pet. Co., et al, Tulsa 1,083
Ottstot Development Co., Blackwell 3,859
Ottawa Oil Co., Wellsville, N. Y. 280
Overton, C. H., Tulsa 1,448
Overton, C. H., and G. H. Hurford, Tulsa 1,285
Owl Oil Co., Loco 22,706
Owsley, D. L., Tulsa 1,236
Page, Charles, Trustee, Tulsa 14,871
Page, Charles, George Kinney and C. W. Kingsbury, Tulsa 4,987
Page, Charles, George Kinney, C. W. Kingsbury and C. F. Tingley, Sand Springs 132
Page Oil Synd., Clarinda, Iowa 1,663
Painter, J. W., Nowata 252
Painter & Stager, Nowata 117
Painter, Stager & Higgins, Nowata 837
Pan-Elva Oil & Gas Co., Pittsburgh, Pa. 2,305
Panama Oil & Gas Co., Holdenville 1,850
Panhandle Refining Co., Wichita Falls, Tex. 1,024
Panther Oil & Development Co., Bartlesville 178
Papoose Oil Co., Tulsa 14,570
Paraffine Oil Co., The, Beaumont, Tex. 10,289
Paragon Oil Co., Tulsa 8,574
Parent Pet. Corp., Okmulgee 3,179
Parker, D. F., Trustee, Okmulgee 562
Parks Oil Co., Chelsea 1,046
Parmenter, L. C., and Guy M. Buchner, Muskogee 164
Parmenter, W. L., Lima, Ohio 2,829
Parmenter, W. L., No. 2, Lima, Ohio 430
Parsons, E. E., Okemah 1,668
Patchen, M. C., Estate, Bartlesville 888
Patterson, M. R., Bartlesville 5,996
Patterson & Swain, Bartlesville 663
Patton, Guy, Vinita 731
Patton, W. P., Tulsa 249
Pauline Oil & Gas Co., Oklahoma City 9,275
Peer Oil Corp., Houston, Tex. 3,309
Pelham Pet. Co., Tulsa 1,624
Penman Oil & Gas Co., Okmulgee 12,767
Pennhoma Oil Co., Pittsburgh, Pa. 359
Pennsylvania Oil Corp., Warren, Pa. 571
Pennsylvania Oil & Lumber Corp., Warren, Pa. 2,083
Pennok Oil Co., Tulsa 234,487
Pensy Oil Corp., Tulsa 2,457
Periscope Oil Co., Tulsa 259
Peters Oil Co., Tulsa 5,743
Petroleum Co., The, and M. H. Mosier, Tulsa 15,885
Petroleum Co., The, Tulsa 10,560
Phalin, L. F., Okmulgee 685
Phillips & Milam, Chelsea 17,172
Phillips Oil Co., Chelsea 1,608
Phillips Pet. Co., Bartlesville 2,554,999
Phillips, Waite, Oil Co., Tulsa 305,929
Phoenix Refining Co., Tulsa 4,767
Pilgrim Pet. Co., Tulsa 3,119
Pine, W. B., Okmulgee 90,787
Pirtle Pittman Oil Co., Newkirk 1,016
Planters Oil & Gas Co., Jackson, Tenn. 801
Plover Drilling Co., Bartlesville 7,150
Plumb, A. O., Depew 1,066
Plymouth Pet. Co., Tulsa 9,130
Plymouth Pet. Co., et al, Tulsa 14,514
Porter, C. R., Tulsa 1,376
Post Oak Crude Oil & Gas Co., Logan, Iowa 1,221
Potter Oil Co., New York 42,340
Pouder & Pomeroy, Tulsa 448
Prairie Oil & Gas Co., The, Independence, Kans. 1,527,254
Prairie Oil & Gas Co. for W. M. Graham Oil & Gas Co., Independence, Kans. 10,906
Preisler, F. M., Tulsa 1,290
Preisler Pet. Co., Tulsa 605
Prescott & Snider, Kansas City, Mo. 234
Price, Ernest, Muskogee 171
Prince, C. W., Okmulgee 633
Probst, George C., et al, Tulsa 338
Producers & Refiners Corp., Tulsa 663,481
Prunty, F. O., Blackwell 695
Pulaski Oil Co., Tulsa 22,368
Pure Oil Co., Columbus, Ohio 610,001
Purdy, R. E., Blackwell 134
Purdy Pet. Co., Tulsa 520
Pyramid Oil Co., The, Winchester, Ky. 9,604
Quinlan, C. P., Tulsa 2,229
Quinlan, Felix, Tulsa 288
Rabbits Foot Oil Co., Davenport, Iowa 14,798
Ranger-Gulf Corp., Tulsa 27,229
Reardon, W. E., Okmulgee 84
Rebold Drilling Co., Okmulgee 220
Red Bank Oil Co., Tulsa 81,347
Red, R. D., Tulsa 823
Reed, H. W., Agent, Nowata 653
Reesman, S. S., Tulsa 120
Regal Oil Co., Pittsburgh, Pa. 2,078
Reinhardt, C. H., Chelsea 1,117
Reliance Oil Co., Beaumont, Tex. 4,092
Reliance Oil Co. of Oklahoma, Beaumont, Tex. 7,901
Reno Oil Co. and E. J. Flynn, Sistersville, W. Va. 2,994
Reno Oil Co., Sistersville, W. Va. 2,297
Republic Oil & Refg. Co., Rock Island, Ill. 332
Rex Oil & Gas, Winchester, Ky. 9,604
Reynolds, C. E., Trustee, Okmulgee 3,007
Reynolds, W. G., Okmulgee 43
Reynolds, W. G., Receiver, Okmulgee 1,427
Reynolds Oil & Gas Co., Independence, Kans. 1,135
Rice Creek Producing Co., Tulsa 362
Rice, T. E. and Frank Brewster, Talala 527
Richards, A. M., Cleveland 1,104
Richards, George R., Cleveland 62
Richards, Homer, Cleveland 69
Richmond Gasoline Co., Tulsa 445
Riddle, Mabel L., Estate, Marietta, Ohio 62
Ridley, R. C., Oklahoma City 5,387
Rigdon & Bruen, Kansas City, Mo. 3,855
Rigdon, George R., Kansas City, Mo. 251
Riner, J. J., et al, Nowata 1,162
Riner, J. J., Agent, Nowata 303
Riverland Oil Co., Tulsa 4,014
R. & M. Oil & Gas Co., Hominy 603
Robertson, B. H., Nowata 339
Robertson & Garnett, Nowata 241
Robinson, E. L., - Gibson - Zahniser Oil Corp., Tulsa 40,212
Rogers, A. H., Estate, The, Webb City, Mo. 1,204
Roland Oil Co., Bristow 9,584
Rollestone, E. H., Trustee, Bristow 4,540
Rood, Foster & Melov, Bartlesville 1,870
Ross, C. O., Coffeyville, Kans. 689
Ross, Mrs. Alice, Tulsa 39
Ross, Alice H., Tulsa 56
Ross, E. A., Tulsa 18
Roth, C. E., Independence, Kans. 4,988
Roumania Oil Co., Ardmore 351
Roxoline Pet. Co., Oklahoma City 758
Roxana Pet. Corp., St. Louis, Mo. 731,579
Royan Oil Co., Tulsa 1,874
Rubana Oil Co., Wichita, Kans. 691
Ruth Fuel Co., Bartlesville 1,798
Ryan Consolidated Pet. Corp., Bartlesville 28,533
Ryder, Mrs. A., Nowata 13
Sammel, J. B., and W. B. Stewart et al, Robinson, Ill. 397
Sanders Oil Co., Tulsa 1,950
Sanders Oil & Gas Corp., Tulsa 1,704
Sanderson, M. P., Hominy 173
Sandoma Oil Co., Tulsa 9,984
Sandoma Pet. Co., Tulsa 33,798
Sands, Chas. S., Okmulgee 9,451
Sankey Oil Co., Fort Worth, Tex. 424
Sapulpa Refining Co., D. L. Owsley and W. L. Walker, Receivers, Tulsa 6,786
Sargent, Julia C., Tulsa 1,238
Savoy Oil Co., Tulsa 28,598
Sawyer, F. L., Trustee, Independence, Kans. 174
Schermerhorn, J. B., Minneapolis, Minn. 101,416
Schermerhorn-Young Co., Minneapolis, Minn. 35,953
Schmidt, Louis and Louisa K., Sapulpa 467
Schoenfeld, C. H., J. F. Milliken, George C. Probst and Karl M. Probst, Tulsa 774
Schonwald, Dave, Blackwell 3,129
Schroers, H. J., Vinita 289
Scott, Eura, Los Angeles 3,197
Scott & Rhyems, Chelsea 624
Seagrove, F. S., Baxter Springs, Kans. 267
Selby Oil & Gas Co., Tulsa 40,442
Shaffer, C. B., Chicago, Ill. 1,316
Shaffer, C. B., Trustee, Chicago, Ill. 1,247
Shaffer, Danner, and Snowden & McSweeney, New York 1,442
Shaffer Oil & Refining Co., Chicago, Ill. 166,327
Shakely, J. L., Tulsa 108
Shear, Marcus Oil Co., and M. Shear, Bradford, Pa. 1,080
Shearer, R. T., Sapulpa 1,188
Sheedy, Frank, Independence, Kans. 1,620
Sheets Brothers, Copan, Okla. 1,234
Sheldon, Dan, Muskogee 16
Sheridan Oil Co., Tulsa 21,888
Sheridan Oil Co., Trustee, Tulsa 703
Shertzer Bros., Dewey 3,279
Shipman & Lewis, Bartlesville 301
Short Grass Oil Co., Morton, Kans. 2,377
Short, Posey R., Tulsa 1,262
Shriver, M. W., Tulsa 86
Shriver, M. W., Trustee for Courter, Shriver & Lorton, Tulsa 168
Shulthis, A. W., Estate, Independence, Kans. 1,850
Shufflin, M. B., Coffeyville, Kans. 1,157
Shuler, Mrs. Clara B., Tulsa 73
Shuler, Isaac, Tulsa 79
Shuler & Fischer, Tulsa 2,170
Siaco Oil Co. et al, New York 735
Sidwell Drilling Co., Sapulpa 432
Siebler, Ben, Cincinnati, Ohio 236
Sigana Oil Co., Cleveland 136
Siggins, Shope & Co., Coffeyville, Kans. 586
Silurian Oil Co., St. Louis, Mo. 81,781
Simack Oil & Gas Co., Wichita Falls, Tex. 167
Simons, I. D., Tulsa 13,406
Simpson, Fell Oil Co., Ardmore 35,577
Sinclair Oil & Gas Co., Tulsa 1,333,888
Sitrin, Sam, Tulsa 26
Skelly Oil Co., Tulsa 2,173,279
Skelton, L. S., Estate, Okmulgee 10,051
Skelton-Moore Oil Co., The, Bartlesville 7,771
Skelly, W. G., Tulsa 523
Slick, T. B., Clarion, Pa. 189,116
Slick Oil Co., Tulsa 2,625
Sloan, G. W., Tulsa 197
Smith, C. R., Ardmore 14,997
Smith, C. T., Trustee, Okmulgee 2,002
Smith & Daugherty, Nowata 212
Smith, D. M., Okmulgee 6,258
Smith, E. T., & Co., Bartlesville 523
Smith, G. J., Tulsa 44,065
Smith, J. T. and Eugene B., Sapulpa 243
Smith, Margaret L. and Chas. Robert, Jr., Ardmore 10,063
Smith, Mrs. Mary S. and Marie S., Ardmore 15,095
Smith, Oil Syndicate, Inc., Tulsa 209
Smith & Steinberger, Tulsa 3,946
Smith, T. K., Tulsa 5,709
Smith, Will H., Trustee, Ardmore 622
Snowden, Danner, et al, Tulsa 3,318
Snowden & McSweeney Co., New York 15,660
Southern Investment Co., Bristow 6,707
Southern Oil & Gas Co., Coffeyville, Kans. 2,711
Southwestern Development Co., Bristow 1,916
Southwestern Oil, Gas & Coal Co., Independence, Kans. 2,341
Southwestern Pet. Co., Phillip H. Lord Estate, Chas. S. Lord and Henry C. Lord, Tulsa 5,240
Southwestern Pet. Co., J. A. Lovell, Paul Lovell and W. T. Hastings, Tulsa 1,678
Southwestern Pet. Co., Tulsa 80,722
Speary Bros. & Mills, Marietta, Ohio 3,898
Speirs, A. J., Jenks 305
Spera Oil Co., Bartlesville 509
Spindletop Oil Co., Tulsa 1,589
Spring Oil Co., Independence, Kans. 2,413
Stager, J. A., Nowata 628
Stager & Cornelius, Nowata 1,291
Stahl & Horrigan, M. Gorman, Trustee, Ardmore 2,528
Stake Oil Co., Independence, Kans. 545
Stalker, C. E., Tulsa 62
Standish Oil Co., Bartlesville 10,025
Standifer, M. T., Agent, Tulsa 181
Stearns Drilling Co., Okmulgee 790
Steel, J. A., Estate, M. L. Steel, Exec., Beverly Hills, Cal. 2,390
Stein, P. H., and M. S. Mussellem, Muskogee 959
Steinberger, C. A., Tulsa 1,823
Steinmeyer, George, Tulsa 18,696
Stephens, C. S., Coffeyville, Kans. 255
Stewart, C. E., Independence, Kans. 438
Stoyner Oil Co., Bartlesville 22,152
Stine, E. M., Tulsa 249
Stine, J. C., Tulsa 249
Stout, W. E., Parkersburg, W. Va. 398
Straight, Preston et al, Bartlesville 1,931
Stralem, C. I., Tulsa 985
Striker, John H., Tulsa 473
Strozier, Marshall, Fort Smith, Ark. 2,954
Studebaker, E. H., South Bend, Ind. 320
Sturn, H. L., Ardmore 1,111
Sullivan, M. J., Kansas City, Mo. 70
Sullivan & Dickey, Bartlesville 1,147
Summit Oil Co. and Sand Fork Gas and Pet. Co., Bartlesville 928
Sun Gasoline Co., Tulsa 170
Sunbeam Pet. Co., Tulsa 2,236
Sunny Jim Oil Co., Tulsa 206
Superior Oil Corp., Lexington, Ky. 61,543
Suppes, C. E., Tulsa 55
Suppes, G. B., R. E. and C. E., Tulsa 8,114
Suppes & Breslin, Tulsa 3,134
Sutherland Pet. Co., Ardmore 19,110
Sweeney, J. F., Tulsa 512
Sweeney, J. F., & Co., Tulsa 11,537
Swindler et al, Papoose Oil Co., Tulsa 18,192
Sykes, C. E., Ardmore 1,703
Taft Oil Co., Independence, Kans. 2,276
Tait, S. W., Montpelier, Ind. 646
Terrell Co., The, Terrell, Tex. 3,297
Terwilleger, C. H., Tulsa 9,703
Test Oil Co., Bradford, Pa. 5,351
Texas Co., Prod. Dept., The, Tulsa 675,184
Texas Drilling Synd., No. 3, Duncan 7,301
Texas-Oklahoma Investment Co., Independence, Kans. 1,863
Texas Pacific Coal & Oil Co., Thurber, Tex. 112,477
Texas Producing Co., Independence, Kans. 20
Texmex Oil Co., Tulsa 4,184
32nd Oil & Gas Co., Ardmore 6,553
Thomas, F. V., Receiver, Bartlesville 50
Thompson, J. H., Okmulgee 391
Thompson, John L., Tulsa 32
Thompson, J. N., Tulsa 1,215
Thompson, J. N., William M. and Roy B., Tulsa 947
Thompson, J. W., Bartlesville 537
Thompson, Milton, Cushing 200
Thompson, M. W., Tulsa 3,615
Thompson, R. D., Okmulgee 22
Thompson, R. D., Trustee, Okmulgee 667
Thompson, W. M., Trustee, Tulsa 51
Thompson & Welder, Cleveland 3,200
Thompson & Welder & Neal, Cleveland 3,743
Thurvan Oil Co., Bartlesville 659
Tibbens, C. G., Tulsa 13264
Tibbens, C. G., Tulsa 46,321
Tidal Oil Co., Tulsa 372,261
Tidal Osage Oil Co., Tulsa 281,081
Tiger Pet. Corp., Tulsa 2,787
Tighe, J. P., Arkansas City, Kans. 749
Tighe, J. P., Roy Castle and L. L. Kroh, Arkansas City, Kans. 63
Tighe-Osage Oil Corp., Arkansas City, Kans. 1,097
Tltus, C. W., et al, Tulsa 65,536
T. O. Pet. Co., Muskogee 749
Togo Oil Co., Tulsa 305
Tracy, F. R., Tulsa 691
Trainer, J. E., et al, Salem, W. Va. 300
Trainer Oil & Gas Co., Bartlesville 469
Transcontinental Oil Co., Pittsburgh, Pa. 157,394
Travis, D. R., Tulsa 6,040
Travis, Wm. W., Tulsa 355
Traywick, N. E., Okmulgee 172
Trefts, John C., Buffalo, N. Y. 644
Trimble & Howard, Trustees, Tulsa 353
Troy Oil & Gas Co., Sapulpa 6,070
Trumbo, A. C., Muskogee 63
Tull Oil & Gas Co., Yale 471
Turley, G. W., Oklahoma City 455
Turner, T. E. and T. C., Mounds 4,955
Twin State Oil Co., The, Tulsa 397,452
Tyee Oil & Gas Co., Bartlesville 1,325
Tyler, H. F., and Associates, Dewey 336
Unity Oil Co., Tulsa 205
Upp-Walker et al, Tulsa 1,251
Urschel, C. F., Oklahoma City 6,114
Urschel, Flored S., Oklahoma City 6,114
U. S. Oil & Gas Co., Tulsa 23,052
Vance, S. E., Tulsa 703
Vandervoort, C. E., Sr., Estate, Frank Hudson, Admr., Pawnee 615
Vandervoort & Hoss, Piatt 767
Van Dall, George I, Bartlesville 68
Van Dall Bros., Bartlesville 1,126
Van Horn, E., Chelsea 230
Van Horn, R. V., Trustee, Clifton Forge, Va. 535
Van Moss Oil Co., Bartlesville 1,219
Van Nostrand, H. I., Trustee, Claremore 68
Vensel, Elliott & Vensel, Tulsa 2,044
Vesta Oil & Gas Co., Kansas City. 310
Vogler, A. F., et al, Tulsa 392
Vowell-Jackson, Sapulpa 9,922
Wachob, Trumbo & McKay, Muskogee 120
Wah-shah-she Oil Co., Bartlesville 7,704
Waite, Charles L., Los Angeles, Cal. 1,326
Waite, Fannia C., Los Angeles, Cal. 1,326
Waite, M. M., Dewey 717
Walker, P. G., and O. K. Eysenbach, Tulsa 594
Wall Oil Co., Tulsa 1,779
Wallace, J. E., Okmulgee 499
Walling, F. G., Tulsa 24
Walsh Oil Co., Tulsa 7,546
Ward Oil & Gas Co., Tulsa 2,169
Warner-Caldwell Oil Co., Titusville, Pa. 20,716
Warren Co., Bartlesville 143
Washington, J. E., Tulsa 259
Washington Oil Producing Co., Inc., New York 90
Watchorn Oil & Gas Co., Oklahoma City 28,137
Watkins, F. E., Trustee, Waurika. 1,574
Waxier, R. A., Tulsa 1,695
Weber, Howard, No. 5, Bartlesville 1,423
Weber, Obins & Beattie, Bartlesville 691
Welbie, H. C., Coffeyville, Kans. 181
Welch Gas & Oil Co., Stillwater 729
Welder, Myerle Estate, G. W. Reynolds, Admr., Cleveland 171
Wellsville Oil Co., Wellsville, N. Y. 4,350
Welsh, J. D., Kansas City, Mo. 550
Welsh, M. P., John Welsh and C. T. Dougherty, Nowata 336
Wesley, R. D., Norton, Kans. 35
West, L. L., Tulsa 240
West-Hazlett Oil & Gas Co., The, Independence, Kans. 2,747
Westerly Oil Co., Bartlesville 3,143
Western Natural Gas Co., Tulsa 2,757
Western Oil Corp., Tulsa 10,319
Western States Oil & Land Co., The, Casper, Wyo. 4,195
Westheimer & Daube, Ardmore 136,534
Westland Oil Corp., Tulsa 21,481
Wettack, Maude T., Nowata 436
White Eagle Oil & Ref. Co., Wichita, Kans. 69,096
White Oil Corp., Houston, Tex. 53,549
Whitehill, B. F., Tulsa 5,047
Whitehill, H. J., Tulsa 164
Whitehill, Donovan & Whitehill, Tulsa 536
Whitehill Pet. Co., Tulsa 1,995
Whitehill, Donovan, Hayden & Whitehill, Tulsa 1,180
Whitehill & Glass, Tulsa 1,960
Whittier, M. H., Tulsa 1,027
Wilcox, H. E., Indianapolis, Ind. 217
Wilcox, H. E., R. V. McMullen, Joseph Loriaux and H. G. Wilcox, Tulsa 137
Wilcox, H. F., Oil & Gas Co., Tulsa 207,568
Wilcox, H. G., and E. M. Oswalt, Tulsa 196
Wilcox, Oswalt & Wilcox, Indianapolis, Ind. 415

"Almost Perfect Fish Fossils in Our Cores"



3,700 feet of Sullivan Drill Cores from a hole in Texas

Geologists recording the work of a **Sullivan Diamond Core Drill** in a certain foreign oil district were enabled by means of the complete rock cores obtained to send home full and accurate reports of all strata penetrated. For example:

"Oct. 24. gray, fairly hard shale, compact, not well bedded, with mollusks and fish scales.

"Oct. 5, day shift, shale, at 3383 feet, 2 small almost perfect fish fossils.

"Night shift, shale with thin, well bedded horizons, contains a few fish scales and some mollusks."

Can you get constructive, unquestionable records like this with **your drills?**

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Sullivan Machinery Co.
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Wilhoit, J. C., No. 2 Acct., Kansas City, Mo.	3,786
Wilkinson, Eugene, Nowata	3,157
Wilson, Hiram C., Tulsa	33,113
Wilson, J. H., Chicago, Ill.	330
Wilson, M. A., Dewey	752
Wineland Oil Co., Boynton	1,461
Winona Oil Co., of Delaware, Tulsa	75,912
Winters, M., Independence, Kans.	693
Winters Oil Co., Bradford, Pa.	1,128
Wise & Jackson, Sapulpa	9,981
Wiser Oil Co., Bartlesville	64,797
Withington Oil Co., Dewey	1,271
Wolfe Oil Corp., Bristow	8,346
Wolfe, F., Tulsa	268
Wolfe, Frank, Trustee, Tulsa	831
Wolverine Pet. Corp. St. Louis, Mo.	683,881
Wood, T. J., Tulsa	1,580
Wood Oil Co., Tulsa	48,702
Woodard, George E., Nowata	1,226
Woodard, Burkett & Woodard, Nowata	1,174
Woodard & Woodard, Nowata	782
Woodford & Patterson, Independence, Kans.	95
Wright, A. P., Tulsa	1,375
Wright, J. H., Sapulpa	2,417
Wright, W. T., Trustee, Tulsa	127
Wright Drilling Co., Sapulpa	284
Wrightsman Pet. Co., Tulsa	1,272
Wylie, W. J., Bristow	3,487
Young, W. J., Tulsa	545
Young & Wilson, Dewey	123
Zola Oil Co., Tulsa	19,204
SUPPLEMENTAL:	
Aladdin Oil Co., Kansas City, Mo.	486
Baxter, L. W., Agent, Tulsa	139
Bennett, Elizabeth, Tulsa	55
Berry, J. K., Tulsa	55
Berry, R. G., Tulsa	714
Berry, R. H., Tulsa	501
Bird Creek Oil & Gas Co., Tulsa	958
Bishop Oil Co., Tulsa	292
Black, W. A., Montreal, Canada	361
Bond, J. R., Oil Co., Oklahoma City	1,116
Brewer, C. W., Tulsa	1,346
Burton, Dan A., & W. Dickinson, Tulsa	262
Celestine Oil Co., Tulsa	10,676
Choctaw Oil Producing Co., Tulsa	643
Conner, Lon J., Tulsa	15
Cotton Farm Oil Co., Kansas City, Mo.	719
Damar Producing Co., Bristow	12,333
Damme-Pringle Oil & Gas Co., The, Okmulgee	412
Deaner, C. H., Okmulgee	54
Dennis, G. J., Kiefer	48
Dingwall, J. Alec, Receiver for, Tulsa	8,548
Dowell, M. C., Wewoka	183
Fox, W. T., Sapulpa	523
Graham Mineral Trust, Ardmore	7,446
Halsell & Son Oil & Gas Co., Vinita	1,143
Hays Oil Co., The, Oil City, Pa.	689
Helena Oil & Gas Co., Tulsa	2,843
Henson Producing Co., Tulsa	1,667
Hermu Oil Co., Tulsa	3,952
Hilltop Oil Trust, Ardmore	11,250
Holm, Martin H., Chicago, Ill.	227
Jane Oil Co., Rouseville, Pa.	2,239
Kansas-Oklahoma Consolidated Oil Co., Minneapolis, Minn.	774
Kansoma Oil & Gas Co., Tulsa	220
Kline & Brann, Inc., Tulsa	5,787
Lasoya Oil Co., Altoona, Pa.	2,006
Latonia Oil Co., Tulsa	499
Love, L. H., Ardmore	4,587
Lubell, Jacob J., New York	220
McKeown & Cuckow, Ada	537
McMahon, C. L., Okmulgee	4,231
McMahon, C. L., Inc., Okmulgee	35,539
McMahon, C. L., and Kennedy, Trustees, Okmulgee	68
Majestic Oil, Gas & Refining Co., Duquoin, Ill.	1,007
May, Max, Tulsa	82
Merrick, F. W., Ardmore	7,410
Midland Oil & Drilling Co., Oil City, Pa.	345
Mid-State Petroleum Corp., Ponca City	427
Morton Oil & Gas Co., Pittsburgh, Pa.	309
Murphy Oil Co. of Pennsylvania, Philadelphia, Pa.	137
Murry, John Y., Tulsa	718
New England Oil & Pipe Line Co., Boston, Mass.	33,156
Nyanza Refining Co., Wilson	2,354
O'Connor, Dennis & Sarah, Butler, Pa.	268
Oklahoma Producing & Refining Corp., Columbus, Ohio	347,327
Peer Oil Corp., Tulsa	21,210
Petty, C. C., Guthrie	117
Pischel, Max A., Tulsa	95
Priddy, W. M., Wichita Falls, Tex.	1,389
Redoak Oil Trust, Ardmore	12,453
Rose, J. E., Muskogee	100
Selby, J. L., Muskogee	147
Sigmund-Weis, Okmulgee	153
Smith, Samuel H., Tulsa	1,346
Smith, Samuel H. Oil Co., Tulsa	504
Sprague Oil Co., Ardmore	3,440
States Petroleum Co., Tulsa	35
Strimple, J. A., Janesville, Wis.	137
Swanson, Fred and John, and Dan Kelly, Chanute, Kans., and Marietta, Ohio	2,279
Thurmond, T. A., Ardmore	4,587
Twin Hills Oil & Gas Co., Tulsa	2,216
Tyrrell, H. C., Tulsa	527
U. S. Cities Corp., Tulsa	104,309
Wash-Okla Oil & Gas Co., Washington, D. C.	639
Whitehall, Smith, Shaw, et al, Marietta, Ohio	1,719
Wickett, K. L., Tulsa	524
Williams, P. R., Wynona	9,108
Winemiller, J. H., Tulsa	5,293
Wooster Oil Co., Tulsa	16,276
Total	35,886,147

SINCLAIR AND STINNES CONFER

DUSSELDORF, Feb. 9. — Harry F. Sinclair, who arrived in Cologne from Brussels yesterday, had a long interview today with Hugo Stinnes. Mr. Sinclair will sail for New York Tuesday.

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GAS OIL
FUEL OIL
DISTILLATES
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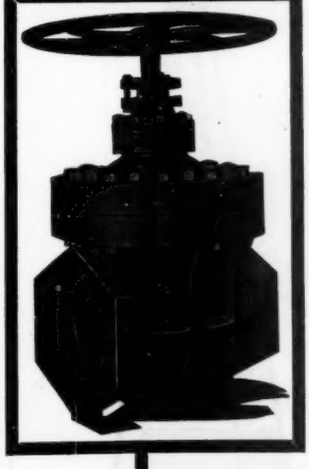
KNOWING HOW



The remarkable success of LUDLOW DOUBLE GATE VALVES is due to the fact that we not only have the correct fundamental valve principle, but we also know what is the best material to use for each part of our valves.

"Knowing how" is the result of many years of practical experience in making valves. LUDLOW VALVE users get the benefit of this experience.

Let our nearest office give you complete information.

THE LUDLOW VALVE MFG. CO.
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Factory: Troy, N. Y.

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4

O'Brien Structural Steel Derricks

Features:

Strength

Ease of erection

Low cost

No upkeep, when put up they stay.

The double splice joint, a patented feature.

Cannot wind or twist.

Has never been pulled in.

Complete Steel Derrick

The sturdy old oak derrick got its strength from the fact that it was an angle derrick. O'Brien derricks are **steel angles.** You know the answer.

O'Brien Steel Construction Co.
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Rig Equipment Company, Sand Springs, Okla.

NATIONAL TURNBUCKLE DERRICKS
Are Guaranteed to do Work at Any Depth

National Turnbuckle Derricks are **extra heavy** standard drilling derricks. They are the strongest, best constructed and most economical on the market.

They are simple in construction, easy to erect and dismantle and will salvage 100%.

The standard derrick is constructed on a 22 foot base, 82 feet high. The braces are of ⅞ inch and 1 inch steel, held together and adjusted by turnbuckles.

National Turnbuckle Derricks can be furnished in any standard height —Rotary or Cable Tool Drilling or Pumping.

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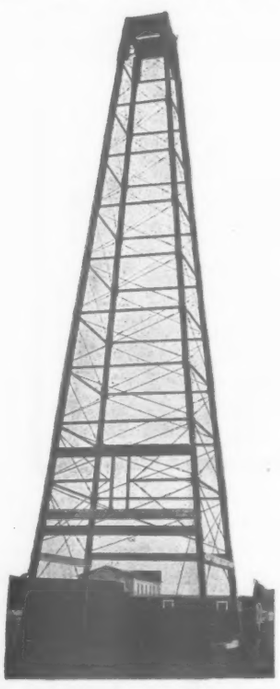
OSAGE RIG, REEL & LUMBER ASSN. Complete stocks of lumber, rig irons and general building materials at Burbank, Apperson, Shidler, Wynona, Lyman, Wewoka and Wetumka, Okla.
MAHAN, McCARTY & BESSE
Contract Rig Builders



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DISTRESS GASOLINE HITS CHICAGO AREA

(Continued from Page 98)

lack of demand which in general characterized the trading of the week. Little movement was reported with practically no February business under way expect that covered by contracts signed near the first of the present year. Many men, well versed in the actions of the market, expect prices to drop to the level maintained before the announcement of the most recent tank wagon advance in this territory. They say the refiner will reap little if any benefit from the last advance, the favors going to the jobber who now can buy his gasoline at 11½ cents with a tank wagon price of 18 cents.

Natural gasolines, particularly Grade A, were slightly stronger. One large Oklahoma manufacturer, approached by Chicago marketers, replied that he was sold up on Grade A, but that he would ask as high as 11¾ cents for that product, if he had any available. This was considered high, as there was some available in this region at ¼ to ½ cent under his figure. Other grades were maintaining a steady position. Demand for blends slipped down with a slackened movement of this material. Prices were held steady, however, a majority of the stuff sold bringing about 10¾ cents.

Kerosene Drops

Kerosene was reported to be more plentiful with the result that asking prices of 6½ cents, set up by a few refiners, were dropped after purchasers found they did not have to pay more than 6¼ cents. Some kerosene was sold at 6 cents.

An advance of 1 cents in the price of neutrals, reported by Cosden & Co. February 6, was expected to follow in connection with the advance in the price of crude oil. Advances in other parts of the country have contributed to the firm prices of other lubricants also. The bad weather, as in the case of other petroleum products, has hurt the demand for lubricants, but a renewal of buying activity is expected in March by many companies. The non-viscous paraffin oils have suffered to some extent, while the viscous pale and red oils are reported to be selling in a slightly improved condition. The Pennsylvania bright stocks are firm, while Oklahoma bright stocks were advanced slightly as a result of the crude advance. Several refiners are sold away ahead on lburicants.

N. LOUISIANA-ARKANSAS

(Continued from Page 54)

centered during the week on the wildcat test now drilling by the Ohio Oil Co. on the Bodcaw Lumber Co. lease in Section 19-16-6. A showing of gas at 2,859 feet caused a flurry of excitement and further development of the test will be watched closely. The well is 3 miles west of Bienville and 12 miles south of Gibsland and Arcadia. The Arkansas Fuel Oil Co. is drilling at 1,090 feet in No. 1 Harrell, Section 6-18-5.

Bossier Parish

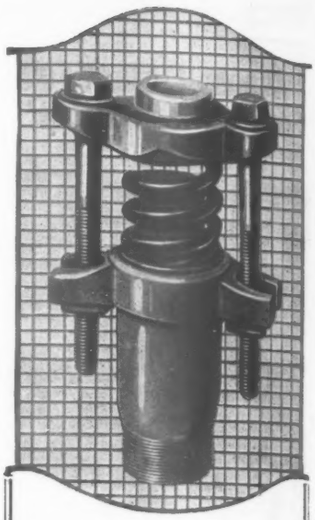
Bolinger, Sales & Walker have taken over the Atlas Drilling Co.'s well on the Bolinger lease in Section 3-22-12, and are drilling at 1,365 feet. The test is in the vicinity of the Lloyd Harris well in the north end of the Parish.

In the Elm Grove district, Davis & Burch are drilling at 800 feet in No. 1 Hodges, Section 22-16-12. Zinc and others have resumed drilling and are down 315 feet in No. 1 McGuffin, Sectin 4-18-11, 15 miles east of Shreveport.

La Salle Parish: The Urania Petroleum Co. is drilling at 500 feet in No. 3 Urania, Section 20-10-2e.

Lincoln Parish: The Four Creek Oil Co. is drilling at 1,800 feet in No. 1 Colvin, Section 35-20-3w.

Morehouse Parish: The Carson Carbon Co. completed No. 1 Irwin, Section 28-20-5e, making 8,000,000 feet of gas at 2,243 feet. Ladel et al completed No.



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An absolute guarantee against breakage goes with every Nor-Bro Spring Stuffing Box.

Extreme durability is combined with correctness in design. The heavy oil-tempered spring exerts a constant pressure on the packing, forcing it tightly against the rod.

The bowl is extra deep and holds plenty of packing. Bottom bushing is easily removed so packing can be quickly changed. Rods pull through without removing box.

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NORRIS

TEMPER BURNS SCREW

Burns Patented Tubular Temper Screw

Simple in design, sturdy construction with a practical principle.

For sale by all Supply Companies

Burns Tool Company
Okmulgee, Okla.

16 fee, Section 22-20-5e, making 15,000,000 feet of gas at 2,286 feet.

The Amalgamated Oil Co. is drilling at 2,150 feet in No. 1 Southern, Section 19-20-5e, and Label and others set 12½-inch casing at 205 feet in No. 20 fee, Section 22-20-5e.

The Richland Oil & Gas Co. is drilling at 2,060 feet in No. 1 Chess Wymond, Section 32-19-6e; the Southern Carbon Co. set 6-inch casing at 2,225 feet in No. 11 Spyker, Section 17-20-5e, and the Transcontinental Oil Co. is drilling at 735 feet in No. 2 Chess Wymond, Section 1-18-5e.

Ouachita Parish: The Southern Carbon Co. completed No. 25 fee, Section 27-19-5e, making 1,500,000 feet of gas at 2,242 feet. The Atlas Oil Co. is drilling at 2,495 feet in its deep test on the West Virginia Timber Co. lease in Section 3-18-5e.

The Consumers Gas Co. is drilling at 2,000 feet in No. 3 Riche, Section 32-19-5e; the Magnolia Carbon Co. set 6-inch casing at 2,165 feet in No. 2 fee, Section 18-20-5e, and the Southern Carbon Co. is rigging up to drill No. 3 Edelin, Section 5-19-4e, drilling at 750 feet in No. 7 Fairbanks, Section 3-19-4e, and set 8-inch casing at 900 feet in No. 26 fee, Section 7-19-5e.

The Texas Co. set 4½-inch casing at 2,190 feet in No. 4 Gibbs, Section 20-19-5e, and the West Virginia Land & Timber Co. set 8-inch at 1,015 feet in No. 3 fee, Section 4-18-5e.

Union Parish

In the north end of Union Parish, the Arkansas Natural Gas Co. is drilling at 1,800 feet in No. 1 Templeton, Section 19-23-1e; Davidson & Palmer are moving in rig for No. 1 Frost Johnson Lumber Co. in Section 17-23-1e; the Gulf Refining Co. set 10-inch casing at 200 feet in No. 1 Security Trust, Section 23-23-1w, and is drilling at 1,010 feet in No. 1 Green, Section 19-23-1e.

Lide and others are building derrick for No. 1 Templeton in Section 18-23-1e, and the Neddo Petroleum Invincible Corp. is arranging to test at 2,150 feet in No. 1 Smith, Section 2-23-3w. Evans and others are drilling at 1,250 feet in No. 1 Cole, Section 16-22-2e.

The Ohio Oil Co. is drilling at 2,255 feet in No. 1 Duback Lumber Co., Section 15-20-1w, 4 miles southwest of Farmerville, and Tarver and others at 850 feet in No. 1 Payne, Section 31-21-1w, 6 miles west of Farmersville.

In the east end of the Parish, the Union Power Co. is rigging up to drill Union Sawmill Co. No. A-9 in Section 31-21-4e and No. A-10 in Section 5-20-5e.

Webster Parish

In the Cotton Valley district, the Fortuna Oil Co. is drilling at 1.230 feet in No. 1 Pruitt, Section 17-21-9, and set 6-inch casing at 2,500 feet in No. 1 Statton, Section 31-22-10.

The Humble Oil & Refining Co. is arranging to deepen No. 1 Merritt in Section 13-21-10, completed at 2,558 feet a 30,000,000-foot gasser. O'Brien and others are reaming to the bottom of the hole at 2,220 feet in No. 1 Doles, Section 26-21-9. Snyder and others set 12½-inch casing at 250 feet in No. 2 Hodges, Section 15-21-10.

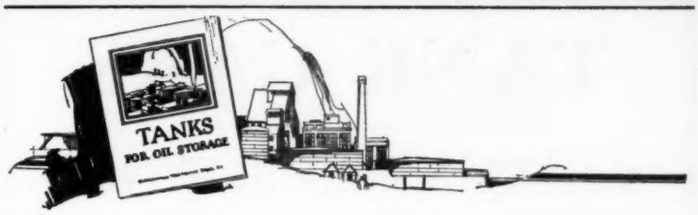
The Triangle Drilling Co. set 8-inch casing at 1,155 feet in No. 1 Merritt, Section 14-21-10. The White Oil Corp. is drilling at 850 feet in No. 1 Gleason, Section 31-22-9.

In the north end of the Parish, Smitherman & McDonald are drilling at 1,150 feet in No. 1 Baucher, Section 21-33-11.

The Standard Oil Co. has abandoned its test on the Woodard & Walker lease in Section 16-17-8, at 1,872 feet.

NEW PIPE LINE COMPANY

SHREVEPORT, La., Feb. 11.—The Crandall Producing Co. has been organized for the purpose of engaging in the pipe line business, with a capitalization of $100,000 and the following officers: President, Thomas W. Crandall, and secretary-treasurer, M. G. Caldwell.



Tanks for Oil Storage
A New, Complete Catalogue!

Just off the press—a complete listing of standard Pittsburgh-Des Moines oil tanks, including specifications, descriptions and illustrations of all sizes and types of oil storage tanks, agitators, stills, etc.

You will want a copy of this book for future reference if not for immediate use. You will find it of great convenience and value to have complete information of this kind for reference when making plans for improvements or the purchase of oil tanks.

Write our nearest office today. Ask for Catalogue No. 77. A copy will be sent to you free without obligating you in any way.

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Type "CC"

We are overstocked on Parmaco High Speed Vacuum Pump Cylinder Outfits which will be disposed of at greatly reduced prices.

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We are prepared to furnish information regarding Standard Oil and other oil stocks and to give most efficient service to orders in oil securities.

CARL H. PFORZHEIMER & CO.

(Specialists in Standard Oil and Miscellaneous Oil Securities)

25 Broad Street NEW YORK, N. Y.

TEXT OF THE TEAPOT DOME CONTRACT

(Continued from Page 68)

make payment to lessor within fifteen (15) days after being notified by lessor of the amount of such certificates which it wishes to have redeemed in cash.

If by reason of delay caused solely by the lessee, or its nominee, sufficient steel tankage shall not have been constructed to receive fuel oil as and when the same shall be due from the lessee to the lessor, the lessee agrees that it will provide at its own expense for the storage of such fuel oil until sufficient tankage therefor belonging to the lessor shall have been constructed.

Various Contract Provisions

There are various provisions relating to the carrying out of the contract, such as provisions for monthly statements showing conditions and agreeing to proceed with the work in a safe and diligent manner to prevent waste, etc. Also not to drill within 200 feet of any of the outer boundaries of the lands covered by the lease unless the adjoining lands have been patented or the title otherwise vested in private owners. Also to conform to all regulations in force at the time the lease was granted. They agree to pay all taxes assessed under the laws of the State upon improvements, etc., accord to the workman complete freedom of purchase and to pay wages twice a month. In the computation of royalties practices adopted by the Department of the Interior are to be followed.

The pipe lines are to transport oil at reasonable rates for the Government "or for any person or company not the owner of any pipe line operating a lease or purchasing oil or gas under the provisions of the leasing act of February 25, 1920." If the pipe line becomes inadequate to care for all oil, that which comes from the Government's royalty in the Salt Lake Field, Wyoming, shall be preferred to that of any other party.

Surrender of the lease with the approval of the Secretary is provided for, but in no case shall such termination be effective until the lessee shall have made full provisions for conservation and protection of the property and upon like consent had and obtained, the lessees may surrender any legal subdivisions of the area included in the lease.

Upon the termination of the lease provision is made for the purchase under appraisal by the Government of all material. If default is made by the lessee for 90 days judicial proceedings may be instituted by the lessor. No member of Congress shall be admitted to any share of the lease, that is after the election or during his continuance in office; also no employe of the Department of the Interior shall be permitted to have any interest in it.

NEW MARKETING FIRM FORMED IN FORT WORTH

FORT WORTH, Tex., Feb. 11.—F. D. Bostaph, one of the pioneers of the Frick-Reid Supply Co., in the Mid-Continent Field, and formerly general purchasing agent of the Texas Pacific Coal & Oil Co., has recently joined with George P. Gleason and A. C. Taylor in the reorganization of the Central Texas Petroleum Co., general marketing concern wtih headquarters in Fort Worth. The new company will be known as the Central Texas Petroleum Co. of Texas, George P. Gleason, president, A. C. Taylor, vice president, F. D. Bostaph, secretary and treasurer.

M. J. Sutphin, formerly of the Fort Worth office of the Imperial Oil Marketing Co., will handle the company's marketing business in Texas, specializing in fuel oil and distillates. The new company retains its Pittsburgh office at 230 Fifth Avenue, in charge of B. A. Winters and R. H. Archibald, both of whom were formerly with the Penn Okla Oil Co.

FRAME SPECIFICATIONS FOR WORKING BARRELS

Progress in standardization of working barrels was made at a meeting of the Purchasing Agents Association of Tulsa Tuesday night. George B. Morris, of the Bradford Motor Works; H. H. Murray, manager of the Seamless Tube Co.; and Don Bowers, of the W. C. Norris Manufacturing Co., expressed the willingness of manufacturers to cooperate with the purchasers in formulating specifications. Discussion centered around the possibility of specifying the inside finish of the barrel.

An illustrated lecture on the advantages of cast iron pipe, by H. Y. Carson, research engineer of the American Cast Iron Pipe Co., Birmingham, Ala., preceded the discussion.

WANTS TARIFF ON OIL

WASHINGTON, D. C., Feb. 12.—The fight for a tariff on crude and fuel oil will be revived by the bill offered by Representative Rosenbloom of West Virginia, which would levy a duty of 35 cents and 25 cents a barrel, respectively. The same rates were proposed in the Fordney tariff bill a year ago.

Cummins Working Barrels

"DUPLEX"
for Sand and other STUBBORN Conditions

"SIMPLEX"
for NORMAL Wells

"NICHROME"
Steel Balls and Seats for ANY Condition

All Sold on a Money Back Guarantee of Super-Superiority and Solid Satisfaction

Will You Spend a Dollar to Save Two?

Order Now!

Dealers Everywhere
or Direct from

Cummins Working Barrel Company, Inc.

Syracuse, N. Y.

HOUGH

SEAMLESS STEEL WORKING BARRELS

DURABLE

ACCURATE TO SIZE

UNIFORM QUALITY

STRONG

HOUGH SEAMLESS STEEL WORKING BARRELS EXCEL IN DEPENDABLE WORKING QUALITIES

BUY FROM YOUR DEALER

THE CHARLES N. HOUGH MANUFACTURING CO.
Pumping Equipment
Franklin, Penna.

STEELEX—BALL AND SEAT

The best that's made for use in territory where you have excessive sand in the oil.

BRONZEX—BALL AND SEAT

For use where lodestone or other elements which act on steel are in the water or where there is alkali in the water or oil.

A Vast Wealth

of expert information is contained in every issue of The Oil and Gas Journal. It is presented in such form that the facts, figures, news, analyses, technical and semi-technical articles, etc., are easily available to the reader.

A large number of readers study their Oil and Gas Journal every week and then carefully file it for future use. They know it will help them in their desire for advancement and give them a Petroleum Education not otherwise obtainable.

Binders especially designed for conveniently filing 13 Oil and Gas Journals are available at $2.50 each. Protect your Journals by ordering today.

The Oil and Gas Journal
Tulsa, Oklahoma

Advantageous Site Found for Big Oil And Gas Exposition

The International Petroleum Exposition and Congress, which will be held in Tulsa on October 2 to 11, will occupy the spacious grounds formerly used as the site of the Prairie Oil & Gas Co.'s shops and warehouse.

The grounds are three blocks farther from the Hotel Tulsa than last year's exposition grounds, and in the eastern part of the city.

The grounds contain several large brick buildings which will be converted into exposition buildings; a modern electric power plant, a brick administration building and a number of large structures of steel, wood and iron, adaptable for use by exhibitors and one of which may be made into an assembly hall for the petroleum congress.

The grounds are accessible by street car and bus lines.

Exhibitors will find that unloading facilities are at their disposal at a minimum cost, as the M. K. & T. tracks run alongside the grounds, providing excellent switching facilities.

MAGNOLIA PIPE LINE RUNS FOR JANUARY

The Magnolia Petroleum Co.'s pipe line runs out of the fields of Kansas, Oklahoma, North and Central Texas, Arkansas and Louisiana for the month of January were as follows:

Oklahoma-Kansas	
Wewoka	12,423.10
Burbank	none
Bristow	72,230.84
Hewitt	36,832.98
Healdton	359,767.32
Cushing	187,557.23
Yale	64,008.71
Cement	31,710.85
Duncan	77,812.40
Augusta	37,916.88
Walters-Beaver Creek	11,440.40
Total Oklahoma and Kansas	891,700.71
Texas	
Thrall	2,575.76
Electra and Burkburnett	266,081.27
Henrietta	6,246.48
Heavy Corsicana	11,126.47
Light Corsicana and Powell	224,194.82
Comanche	61,265.37
Olden	27,948.04
Stephens	41,007.62
Coleman	318.88
Mirando	35,750.31
Mexia	117,914.60
Luling	198,137.56
Total Texas	992,567.18
Louisiana	
Haynesville (Fortuna) 1/30	11,775.02
Bull Bayou (Fortuna)	27,397.47
Total Louisiana	39,172.49
Arkansas	
El Dorado light	32,066.89
East El Dorado	15,232.80
Total Arkansas	47,299.69

Total runs, 1,970,740.07.

LAST MINUTE *from* OKLAHOMA

A good well for 100 bbls. an hour was brought in by Titus and others in their No. 4, CEL NE, Section 6-21-11, Osage County. Sand was found at 2,260-93 feet. The first well on this lease was completed in May for 1,840 bbls. natural, and No. 2 came in during June at the rate of 50 bbls. an hour. McKinney and others' No. 1-A, C NW SW NW, Section 5-21-11, topped the second break at 2,323 feet and made 30 bbls. an hour.

The Holmes & Jarvis well, No. 1 Harjo, NW cor. SW, Section 22-10-8, northern Seminole County, produced 200 bbls. the first 21 hours from sand at 3,470-74 feet.

The Wewoka Field, in Seminole County, will be extended a half mile to the east if the Atlantic Oil Producing Co.'s No. 1 Sango, SW cor. NE NE, Section 33-8-8, turns out to be a producer. It had 800 feet of oil in the hole from sand topped at 3,116 feet, and was drilling in. The Gypsy Oil Co.'s No. 1 Foster, C SW NW SW, Section 28-8-8, was making 290 bbls. from sand at 3,094-3,102 feet, and was drilling deeper.

Tycos Temperature Instruments
INDICATING-RECORDING-CONTROLLING

Tycos Distillation Apparatus

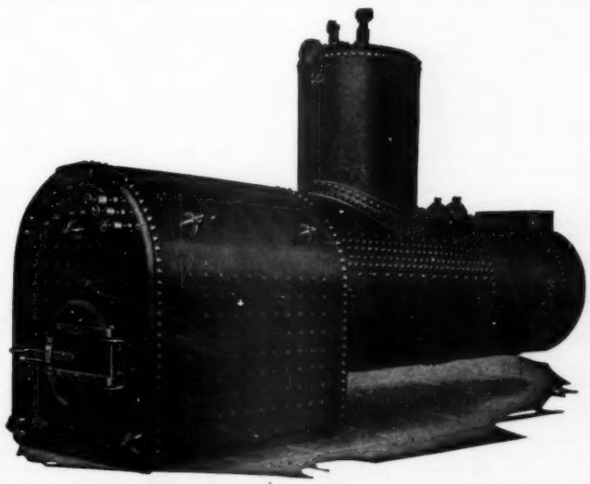
meets all the specifications of the United States Government and the American Society of Testing Materials. This apparatus can be used in large numbers by the refiner. A single apparatus is practically indispensable to even the small purchaser of gasoline for resale, as the ability to properly check up material that is being delivered will save the price of one of these outfits in a very short time.

Catalog Part 1700 fully describes *Tycos* Instruments for refining temperature control as well as laboratory. Write today for it.

Taylor Instrument Companies
Rochester, N. Y., U. S. A.
Canadian Plant: *Tycos* Bldg., 110 Church St., Toronto
There's a *Tycos* or *Taylor* Temperature Instrument for every purpose

3733

Sistersville A. S. M. E. Code Boiler



Also Locomotive Type Portable Boilers

TANKS
Oil, Gasoline and Chemical Storage
Capacities 4,400 to 20,000 Gallons
Electric Welded, 40 to 100 Barrels
High and Low Pressure Accumulator
Bolted 100 to 2,000 Barrels
Steel Plate Construction

Prices and Catalog mailed upon application

Sistersville Tank & Boiler Works
Office and Works, Sistersville, West Virginia

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

COPY must be in our office Friday prior to date of issue. Average 6 words to the line. Cash in advance

LEASES—PRODUCTION

FOR SALE—Fine block of oil leases; shallow drilling; close to pipe line. A. S. Potter, Iola, Kans.

ROYALTIES and drilling contracts in the Northern Colorado Oil Fields. Ahlstrand, Greeley, Colorado.

FOR PANHANDLE oil leases near drilling wells at $2 an acre, write Dr. W. R. German, Canadian, Texas.

80 ACRES land in Franklin County, Arkansas; $7.50 per acre; terms. J. Schoenborn, 2421 High Street, Chicago, Illinois.

ACRES, 40—$200 payments, $5 monthly; truck and poultry land; near town; Missouri; a snap. Box 198, Mt. Vernon, Ill.

IF INTERESTED in Osage County, Oklahoma oil lease, writer might have what you desire. Box I, Nelagoney, Oklahoma.

I HAVE 7,000 ACRES to give for one test well. Will furnish maps and report. Fred Stewart, 1236 South Cheyenne St., Tulsa, Okla.

PRODUCTION, leases, royalties, refineries and drilling blocks, with good geology. Fairmount Investment Corp., Oklahoma City, Okla.

5,120 ACRES—On oil escarpment, $6 per acre; part cash, part trade, balance 3 per cent. Frank Mashek, 2317 Crawford St., Houston, Texas.

FOR SALE—80-acre standard lease in the great gas field in Franklin County, Arkansas, near Van Buren. Price $200. W. T. Pitts, Indianola, Miss.

SEVERAL BARGAINS in Kentucky production; leases in proven territory; good drilling propositions; royalties; low operating cost. Box 523, Bowling Green, Ky.

OFFER 7,000 ACRES solid block for test well; excellent geology; good title; northern part State of Tamaulipas, Mexico. Great opportunity. P. O. Box 957, Kansas City, Mo.

FOR SALE—Four-barrel settled production, 50 acres; lease in excellent condition; located in Warren County, Kentucky. Must sell. Price $2,750. Box 365, Bowling Green, Ky.

WEWOKA—Oklahoma's newest oil field; have high class or cheap leases and royalties for sale, in Seminole, Pottawatomie and Lincoln Counties. W. R. Turner, 2123 Warren Ave., Chicago, Ill.

FOR SALE—Oil and gas leases located in Sections 16 and 28, Township 21, Range 9 west, Webster Parish, Louisiana, or will let these leases on a drilling contract. Charles A. Huston, 521 Ohio Street, Terre Haute, Ind.

OIL COMPANY now drilling well in the famous Hirschi district of Wichita County, Texas, offers acreage within a half-mile of well. Cash and quick action required. P. O. Box 957, Kansas City, Mo.

OWN 30,000 acres oil leases selected over Oklahoma. Getting a play on 20 drilling wells. Will sell all or part at attractive prices on terms. Mid-Continent Oil Lease Corp., Continental Bldg., Oklahoma City, Okla.

OIL LEASES FOR SALE

3,040 acres, all in solid block, in proven territory, at $25 an acre; 3 to 6 miles southwest of Sterling, Okla.; in range 3n, 9 and 10 west. Call and see George Scheetz, Fletcher, Okla.

LARGE BLOCK of acreage on approved structure in northeastern New Mexico for a test well. If you are in a position to finance the drilling of a well and mean business, write C. E. McGinnis, Roy, New Mexico.

FOR SALE—200-acre lease with five wells located in Douglas County, Kansas. Several offsets to be drilled against wells on adjoining lease, which came in from 25 to 150 barrels. Address Box X Y Z, care The Oil and Gas Journal, Tulsa, Okla.

LEASES—PRODUCTION

FOR SALE—40-acre royalty interest in Pine Island Field, Louisiana. J. E. Allen, Mulberry, Ind.

FOR QUICK SALE—180 barrels production; 946 acres proven leases. W. M. Bridgett, 406 Adams Bldg., Danville, Ill.

LEASES and blocks near locations, drilling wells and production in Grant, Kay, and Cowley Counties enjoying the big play. Box 24, Silverdale, Kans.

FREE LEASES—San Juan Basin, to developers. New Mexico's famous high gravity territory; 160 to 20,000 acres. Edward C. Hall, Sugar Land, Texas.

FOR SALE—At bargain prices, oil and gas leases, production and royalties in the Kentucky shallow fields. For full particulars and maps, address W. P. Harley, Bowling Green, Ky.

Production
Drilling Blocks
Leases and Royalties
Geological Value Given Preference
J. M. Allen
902 Petroleum Bldg., Tulsa, Okla.

YOU WILL always be right in reading this Classified Section as it is the best Petroleum Publication Classified Section in the world. It will help you.

OIL OPERATORS—Montgomery County, Mississippi, world's next big oil field; 3,000 acres leases for well. W. C. Brooks, 282 S. Front St., Memphis, Tenn.

5c AN ACRE CASH—Texas school lands for sale by the State at $2 per acre; 5 cents an acre cash, balance in 40 years, 5 per cent interest. Send 6 cents postage for further information. Investor Publishing Co., Desk 8, San Antonio, Texas.

FINE PROSPECT in southern Indiana, 2,500 acres, two-year leases, no rental for one year; 2 miles from production in line for new pool. Will turn over all leases and drill well for most reasonable figure. Have rig ready to go. P. E. Tichenor, Evansville, Ind.

TEXAS oil leases close to drilling wells in Luling Field, Guadalupe, Bexar, Webb and Medina Counties. Standard Form 88 five year leases. Much development taking place. Write for map and particulars. L. W. Stieren, 815 Alamo National Bank Building, San Antonio, Tex.

I HAVE 70 acres in Payne County, Oklahoma, for lease. The southeast quarter Section 6, Township 17n, Range 1 east of the Indian Meridian. Address, Annie Richardson, Route No. 1, Box 2, Coyle, Okla.

I HAVE wildcat acreage for sale in vicinity of well located by the same geologist who discovered the Sayre oil field and recommended by him to be as safe an investment as the Sayre Field. I can sell for $2 per acre and up. Dr. W. R. German, Canadian, Tex.

75c PER ACRE for 1,000 or 5,000 acres in the Panhandle of Texas on surveyed structure. Well drilling to prove this territory. No rental due till 1926. A snap for someone. If interested, write and will forward printed geologist's report and map. 300 Alworth Bldg., Duluth, Minn.

LEASES AND ROYALTIES—Pottawatomie, Lincoln, Seminole, Pontotoc and McClain Counties. Maps of Pottawatomie showing acreage leased. Paper, $3.50; cloth, $5; postpaid. B. H. Rowlett & Co., Tecumseh, Okla.

PRODUCTION FOR SALE—220 barrels daily; 40 locations available; net earnings 35 per cent; price $200,000. Address, G. Lucas, 617 Edwards Street, Shreveport, La.

METCALF COUNTY OIL LEASES

I own several very desirable leases near production, shallow drilling, 220 to 400 feet; production 5 to 20 barrels daily; 45 to 51 gravity oil, which I offer to the right parties on very easy terms. A. W. Richards, Edmonton, Ky.

LEASES—PRODUCTION

TEXAS OIL LEASES, 10 cents an acre up to $10 an acre. Will sell tracts of 10 acres or more. Have 30,000 acres to choose from. All new five-year leases. Get full particulars. Gulf Realty Co., 275 Bedell Building, San Antonio, Texas.

PRODUCING LEASE

Woodson County, Kansas; west 120 acres of southwest quarter, 34-23-16; proven field; 3 wells; pump house; full equipment; private sale to highest bidder. Sealed bids opened March 10. Full details; address owner. Box 266, Topeka, Kans.

FOR SALE—Oil and gas leases on 120 acres in 21-10-6, Seminole County, at $4 per acre. Okmulgee Securities Co., Okmulgee, Okla.

IF I had my Wants listed in this section they would receive the same attention that thousands are giving the good advertisements already here.

KENTUCKY oil and gas leases for sale near production; drilling wells and on good structure. Write me for map and description. F. L. James, Box 194, Edmonton, Ky.

MONTANA—Toole County leases, 140 producing wells in this county. Shallow drilling; 40-acre leases near production, $10 per acre; also proven acreage. A. W. Beeston, Shelby, Mont.

FOR SALE—Oil and gas properties in eastern Kentucky; 430 acres in proven territory, with three fully equipped wells and adequate pipe line facilities. Additional large amount of excellent prospective oil and gas acreage. Shallow drilling to Wier and Berea sands. Terms reasonable. Inquire A. R. Eyssell, 244 Bellefield Avenue, Pittsburgh, Pa.

TAKE NOTICE—Oil man or investor. I can furnish a few choice 40-acre leases at $100 each of 20 acres at $60. Located in north central Canada on the same uplift and within 2½ miles from test well. Two wells fully financed and drilling are to be completed this spring; both wells have had excellent showings of oil and gas; analyses show oil to be high gravity. Government title to lease. This is a bonafide opportunity. Cornelius Blegen, Field Scout, Box 1658, Winnipeg, Canada.

FOR SALE—Choice one-half royalties close to drilling structure, in Eastern Texas. Every indication for success very favorable. Also have lease and royalties in Panola, Shelby, Rusk and Nacogdoches Counties, Texas. Will furnish large tracts for development. Address, R. L. Day, Timpson, Texas.

YOU WILL always be right in reading this Classified Section as it is the best Petroleum Publication Classified Section in the world. It will help you.

OIL LEASES

We have leases 20 to 50 miles from the new Luling Field in Texas from 10c an acre up to $1 an acre in tracts of 10 acres up to 10,000 acres. We have many other leases along Balcones Fault and Sheffield (Marathon Fold) Terrace. Here are a few of our leases:

Blanco County	10c an acre
Bandera County	40c an acre
Coke County	40c an acre
Hays County	30c an acre
Guadalupe County	$2.50 an acre
Kerr County	15c an acre
Medina County	50c an acre
Travis County	25c an acre
Zapata County	$1.25 an acre

We also have leases less than 1 mile from production at higher prices. All these leases are the standard Form 88, 5-year leases and all were bought direct by us from the land owner, which accounts for the extremely low prices. We have 30,000 acres on hand to take care of your orders. Don't send any money now; get particulars and maps first. No obligation. Derrick up near Guadalupe leases.

GULF REALTY CO.
277 Bedell Bldg. San Antonio, Texas.

LEASES—PRODUCTION

WANTED—Small company composed of men experienced in the oil business, desire party with capital to finance blocking up, mapping, geologizing, and perfecting titles of acreage on good structure; to such a party can offer proposition that is safe, sane and profitable. Excellent references furnished. Address Box A-95, care The Oil and Gas Journal, Tulsa, Okla.

SELL OR LEASE—Oklahoma acreage near production and railroad; now drilling. Timber and coal section; stock on market. Belle V. Clark, 304 Seaview Ave., Bridgeport, Conn.

OIL MAN, Cow Man or Investor—45-section improved ranch, located in central portion Gray County, Texas, accessible to two railroads; in line of present oil development, being between the Carson County and Sayre, Okla. oil fields; probably 20,000 acres clear of oil leases; $10 per acre in fee; unusually good terms; "no reservations." For map and details, communicate with G. C. Davis, Exclusive Agent, Amarillo, Texas.

FARM LANDS FOR SALE

ACRE UNITS—Ten pecan and 40 orange trees, $120; $10 monthly; guaranteed care. Ultimate production $1,000 yearly. Suburban Orchards Co., Dept. J, Biloxi, Miss.

WANTED—REFINERIES

WANTED—To lease or buy small, well equipped gasoline refinery, in first class condition. Must be well located with good supply of crude available. Address Box A-60, care The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—REFINERIES

OIL REFINERY for sale. Address, J. I. Jones, Trustee in Bankruptcy, Box 1005, Great Falls, Mont.

FOR SALE—EQUIPMENT

FOR SALE—One 70-h. p. type four Bessemer oil engine; practically new; run less than 60 days. Reese Construction Co., Hamburg, Iowa.

FOR SALE—110-h. p. twin cylinder Bessemer natural gas engine; 20-h. p. single cylinder; good as new. Barnes Gin Co., Poteau, Okla.

OIL FIELDS—Oil field machine and forge shop. Priced very low; shop complete, $4,000. The U. S. Tool & Supply Co., Steubenville, Ohio.

FOR SALE—Used casing and line pipe in A-1 condition, all sizes. Write or wire for prices. Cisco Pipe & Supply Co., Cisco, Tex.

FOR SALE—Standard string of tools; bits up to 20-inch; two boilers with fishing tools; located near Choteau, Mont. A bargain for cash. F. M. Gray, Jr. Co., 290 Third St., Milwaukee, Wis.

FOR SALE—A 2-inch double coil for a refinery; 18 feet long, in first class condition; and as good as new. Address Box A-75, care The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—20, 30, 40, 45, 60, 65, 80, 125-h. p. Bessemer gas engines, 35 and 80-h. p.; Bessemer direct drive compressor; other engines up to 350-h. p. Some with generator. Complete electric plants. R. W. Russell, St. Marys, W. Va.

BRAND NEW Pipe Tools, original cases, for 9-inch, 10-inch and 12-inch pipe; 3 Toledo pipe threaders No. 4, each, $185; also 4 Barnes No. 7 pipe cutters, each $15. Prices are f. o. b. cars, New York. Allen Ashley, 152 W. Forty-Second St., New York.

FARMELECTRIC—The Ford farm plant. The light plant that the all men have been looking for; every wearing part interchangeable with Ford engine. Repairs at any Ford garage or country store. Will run 365 days in the year if necessary. For price and terms write Charles S. Brown, State Distributor, 23 North Dewey Street, Oklahoma City, Okla.

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

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FOR SALE—EQUIPMENT

PIPE, VALVES AND FITTINGS

Due to our large stock on hand, in pipe, valves and fittings, standard and extra heavy, flanged and screwed, from ⅛-inch to 24-inch diameter, we are offering attractive prices for immediate shipment. Pipe cut and fabricated to specifications. Arrangements for extended credit can be made. Commonwealth Pipe & Supply Co., Inc., District Sales Dept., P. O. Box 5081, Boston, Mass.

The Classified rates are attractive. It costs but 25 cents the line for the first insertion and 15 cents the line for each additional insertion. Six words usually make a line. Cash with the order.

This useful table will help you to figure the cost of Classified Advertising in The Journal. Keep it for reference.

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8 lines..	2.00	3.20	4.40	5.60
9 lines..	2.25	3.60	4.95	6.30
10 lines..	2.50	4.00	5.50	7.00

FOR SALE—Pine and oak rig timbers; all sizes and lengths. Service and quality. W. T. White, Shreveport, La.

FOR SALE—A profitable second-hand pipe yard, also supplies and machinery. One of the best locations in the United States. Good for $40,000 or more a year profit. Address, Box A-76, care The Oil and Gas Journal, Tulsa, Okla.

USED MACHINERY—20, 50, 110, and 150-h. p. Bessemers; 35-h. p. Chicago Pneumatic; 65, 100 and 125-h. p. Millers; 401-foot Chicago Gas-driven Air Compressor, 100-lb. working pressure, Boilers, Steam Engines, Pumps, Air Compressors, Air Drills, Crushers, Rolls, etc. Ask for our used machinery stock sheet. Landreth Machinery Co., Joplin, Mo.

IN USING this Classified Section for my advertising purposes I will be taking the best means possible to place my wants before the real men of the industry—the readers of The Oil and Gas Journal.

FOR SALE—One No. 28 Star; fair condition; and set of tools, with 30-h. p. boiler; 3 miles from K. C. S. Railway, at Potter, Ark. $1,500. L. A. Longino, Magnolia, Ark.

FOR SALE—3,000 feet 3-inch 8-lb. National Upset drill pipe; 900 feet 2½-inch, 8-lb. National Upset drill pipe; 65 3-inch W. K. M. tool joints; 35 4-inch tool joints; 14 6-inch tool joints; 1 5⅞-inch Hughes Rock Bit, and other rotary supplies used in making one hole. Priced to sell f. o. b. Bloomington, Texas. For complete list and prices, address, H. W. Dodd, Victoria, Texas, or the Dodd Company, 501 Mayo Bldg., Tulsa, Okla.

FOR SALE—PETS

REGISTERED Bull Pups—Bulldog Park, 501 Rockwood, Dallas, Texas.

REGISTERED Pointer and Setter bitch; bred; $100; all papers on pups. Shelby Kennel, Bartlett, Tenn.

BOSTON TERRIER at stud—Fee, $15. Buddie Blink has 14 champions in his pedigree; his father is champion of all Bostons. Some of his pups for sale; no white heads. 114 South Denver, Tulsa, Okla.

BOSTON TERRIER DOGS, pups and grown dogs for sale; also stud dogs for service. All dogs highly pedigreed and papers furnished. Bostons make real companion for all members of family. Communicate with me for high class Bostons. N. D. Gaven, Greenville, Texas.

WANTED

5,000-ACRE BLOCK, Rice County, Kansas, north of Hutchison. Want drilling proposition for acreage. This is a good one. Investigate. Lock Box 448, Sterling, Kans.

WANTED

WANTED—Direct from owners, producing oil property in Kentucky, to operate on a percentage basis, property that owners are away or unable to give the proper care. Give full particulars first letter. Address Box A-30, care The Oil and Gas Journal, Tulsa, Okla.

WANTED—A reliable party to help finance the drilling of well on excellent structure, with good geology. Address, Operator, P. O. Box 955, Tulsa, Okla.

EXPERIENCED oil jobber would like to hear from refiner or someone with capital to join in establishing bulk stations in Iowa. Address P. O. Box 227, Des Moines, Iowa.

WANTED AT ONCE—Good first run casing sufficient for 2,500-foot well. Name lowest cash price and where located. Address Box A-80, care The Oil and Gas Journal, Tulsa, Okla.

IF I had my Wants listed in this section they would receive the same attention that thousands are giving the good advertisements already here.

WANTED—Drilling blocks in Oklahoma and Kansas; also acreage near drilling wells on structure. Address Box A-63, care The Oil and Gas Journal, Tulsa, Okla.

WANTED—Steel oil barge, capacity between 100,000 and 300,000 gallons. must be steel. Kindly furnish details. Metropolitan Filling Stations, Inc., 80 Boylston St., Boston, Mass.

DRILLING CONTRACT wanted on two blocks of 20,000 acres each, in eastern New Mexico. Well defined structure and excellent geological reports. Will furnish information upon application. Address M. F. Woods, Box 262, Ft. Sumner, New Mexico.

FLUOR SPAR—Richer than oil, Have about 400 acres lease in absolutely proven territory in western Kentucky. Property adjoins one of the biggest operating companies. Most favorable lease. Can show $10 per ton net profit, and it does not take much capital to get it going. Crude machinery; plenty of cheap labor; a cash market, ever growing. Leased on royalty.

Want 10 men with $500 each to get her going. But will not allow a cent of your money to be used until I satisfy you of a return of 100 per cent per annum. Full particulars on request and good references. Write P. E. Tichenor, Evansville, Ind.

HELP WANTED

GOOD OPPORTUNITY for experienced lubricating oil salesman. Give references in first letter. Bryte-Nelson Refining Co., 1171 Arcade, St. Louis, Mo.

STOCK SALESMEN—Corporation engaged in mining, preparing and marketing chemicals wants to connect with reliable party who can dispose of $30,000 issue on very profitable commission. "Sanpete," 1039 South Second West St., Salt Lake, Utah.

WANTED in your district, a representative now calling on tank manufacturers, builders, or contractors to whom contracts for building tanks are sublet and who are also called in for repair work and removals, to introduce material absolutely essential to tank manufacturers, etc. Address Box M C, care The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED

MINING ENGINEER—25 years' experience; 10 years in Mexico, 5 years in South America; conversant with geology of oil; open for engagement; address E. Darrin, Hotel Sylvania, Denver, Colo.

SPECIAL KNOWLEDGE Venezuelan (Maracaibo) oil trade. Working knowledge Spanish; practical seaman; highest references. Desires appointment where enterprise and energy will secure permanency and advancement. Address Box 1-Z, care The Oil and Gas Journal, 30 Church St., New York City.

POSITION WANTED

CONSTRUCTION ENGINEER—Executive for refineries and gasoline plants. Address Box E. G., care The Oil and Gas Journal, Tulsa, Okla.

DESIGNING ENGINEER for complete plant layout of refineries and gasoline plants. Address Box W. W., care The Oil and Gas Journal, Tulsa, Okla.

WANT POSITION as refinery superintendent. Information and reference on request. Married. Address Box A-88, care The Oil and Gas Journal, Tulsa, Okla.

TEN YEARS' practical experience as refiner and marketer; familiar with both crude oil and absorption plants. Desire connection with responsible concern. Address, Box 108, Mineral Wells, Texas.

WANTED—A position as boarding house manager in good camp in the oil field by a competent middle-aged lady. Eight years' experience; references. Address Box A-73, care The Oil and Gas Journal, Tulsa, Okla.

TRAFFIC MANAGER open for position; six years' experience with large independent refinery; A-1 references. Address Box A-83, care The Oil and Gas Journal, Tulsa, Okla.

REFINERY SUPERINTENDENT—Open for position. Have had several years' experience in construction and overhauling refineries. Best of reference furnished on request. Address, Box 1209, Bristow, Okla.

SUPERINTENDENT of tools and production and expert fisherman, desires connection with reliable oil company; years of practical experience. Can go anywhere. Address, Box 110, care The Oil and Gas Journal, Tulsa, Okla.

IN USING this Classified Section for my advertising purposes I will be taking the best means possible to place my wants before the real men of the industry—the readers of The Oil and Gas Journal.

EXPERIENCED drilling and construction foreman wishes to get in touch with company where ability means promotion. Foreign work preferred. Ten years' experience; best of references. Address Edwards, 1811 Congress Ave., Houston, Texas.

A TEXAS LAWYER and abstracter who is thoroughly experienced in title work and leasing desires connection with reliable oil company or individual. Can go anywhere. Good references. Address Box A-92, care The Oil and Gas Journal, Tulsa, Okla.

A COMPETENT and experienced oil man in field department; superintendent one of the largest producing companies in Wyoming four years; wishes similar connection with reliable company any place. Best references furnished on request. Address F. C. Lydon, Box 1236, Cheyenne, Wyo.

WANT POSITION as field manager for large oil company or private individual; am graduate mining engineer; age 35; thorough knowledge of oil geology and drilling operations; have had four years' executive experience in State department. Address Box K. D., care The Oil and Gas Journal, Tulsa, Okla.

GRADUATE M. E., six years experience in general field and office engineering, survey, exploration and construction work in oil industry in Mexico, and South America, speaking Spanish, wishes long term contract with reliable oil company along these lines. Address Box A-86, care The Oil and Gas Journal, Tulsa, Okla.

REFINERY SUPERINTENDENT—Who thoroughly understands and can direct the manufacture of high grade petroleum products, both light and heavy, including perfect emulsion neutrals, fully refined wax and bright stock from the different crudes, wishes to make connection with reliable company. Address Box A-87, care The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED

YOUNG MAN—Now employed with old established marketing company; experienced in both purchasing, selling and office; extensive acquaintance with Mid-Continent refiners and consuming trade in Central States, desires position with greater opportunity for advancement; salary reasonable to start. Address Box A-89, care The Oil and Gas Journal, Tulsa, Okla.

YOUNG MAN, now employed as manager of very successful jobbing concern, desires change. Both refinery and natural gasoline plant experience in Mid-Continent and Eastern Fields. College graduate. Am best fitted for executive position in marketing end of business, but will consider anything with a future. Confidential correspondence invited. Address Box A-85, care The Oil and Gas Journal, Tulsa, Okla.

BUSINESS OPPORTUNITY

IF INTERESTED in making an investment in oil, write Camden Investment Co., Box 171, Camden, Ark.

BUSINESS FINANCING—Through proper presentation is brought forcefully to attention of private financial channels of the higher order. Charles W. Barrick, New Martinsville, W. Va.

CAPITAL SEEKERS—Put your project before 470 Canadian brokers and bank managers; cost trifling, under my plan. Details free. Amster Leonard, First National Bank Bldg., Chicago, Ill.

WILL LOAN several strings of casing for interests in wells. All depths; any place. Address Box L. S., care The Oil and Gas Journal, Tulsa, Okla.

WILL GIVE half interest in 80-acre lease, Western Greenwood County, Kansas, two offsets from small pool, for immediate drilling of one well. Address A-91, care The Oil and Gas Journal, Tulsa, Okla.

PARTY with few thousand dollars can secure substantial interest in safe going oil leasing company; profits large and safe as life insurance; investigate. Manley, 313 Herskowitz Building, Oklahoma City, Oklahoma.

GEOLOGIST who has discovered a great anticline on the West Coast wishes to connect with a financial concern who would consider prospecting this new field. Address Box A-93, care The Oil and Gas Journal, Tulsa, Okla.

CAPITAL WANTED—Have leases in Montana, shallow production in Wyoming; need money to develop. Will go in with reliable parties and take mine out of production; 30 years' experience in oil and mining. E. A. Beck, Osage, Wyo.

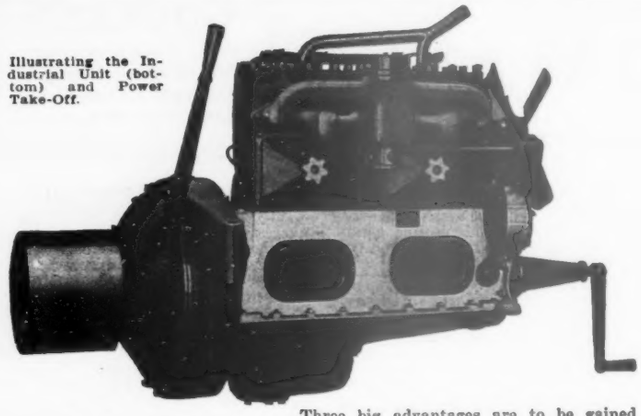
DRILLING BLOCKS—5,000 acres for test in Oklahoma. Good geology; excellent location; liberal contract. Other large blocks in Arkansas, Texas, New Mexico. Full data on request. J. H. Montgomery, 702 Oil Exchange, Oklahoma City, Okla.

PRACTICAL OIL MAN wants partner with $5,000 to handle proposition, potentially the biggest thing in oil producing business. Not a one-well proposition, but continuing, permanent business. Address, A-72, care The Oil and Gas Journal, Tulsa, Okla.

OIL DEVELOPMENT—Brokers, salesmen, we will sell you a lease geologically approved in the Cumberland County, Kentucky oil field and drill you a well 800 feet deep for $5,000. This gives you a test for three pays. Make up your own syndicates or pools. Richardson & Goff, Columbia, Ky.

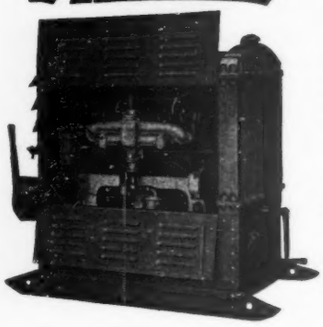
CAPITAL RAISING — Campaigns planned, written, printed — everything complete ready to mail to investors. Twenty years' experience handling investment advertising. Clients all over America. Big, illustrated book, "How to Raise Capital" free if you submit detailed outline of your proposition. Ernest F. Gardner, L-511 Ridge Arcade, Kansas City, Mo.

There are more Classified Advertisements on following page



Illustrating the Industrial Unit (bottom) and Power Take-Off.

Waukesha
TRADE MARK



Three big advantages are to be gained through operating your pumps and drilling machinery with the Waukesha Industrial Unit.

An increase in efficiency that adds immensely to their productiveness.

A dependability in this high performance that increases the profits of operation.

An economy in operating costs that is surprisingly broad.

Equipped with RICARDO Cylinder Head.

Write today for complete details.

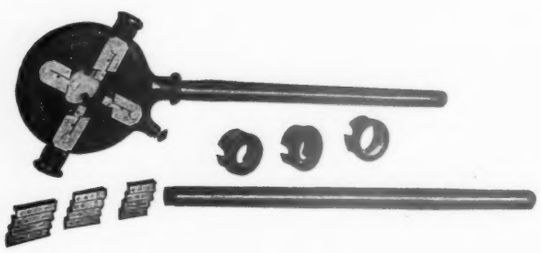
THE WAUKESHA MOTOR COMPANY
Waukesha, Wisconsin

The World's Foremost Builders of Bus Truck, Tractor and Industrial Motors Exclusively

SALES OFFICES:

1824-1825 Aeolian Bldg., 33 W. 42nd St., New York. Telephone: Longacre 5784

503-505 Capitol Theater Bldg., Madison Avenue Side, Detroit. Telephone: Cadillac 4482



The New "TOLEDO" No. 1A

Adjustable for Over or Undersize Fittings

Here is the "last word" in a pipe threading tool for the oil fields. The old, reliable, sturdy "Toledo" No. 1A ratchet tool for threading 1" to 2" pipe, with improved taper pins that permit over, under or standard-size threads.

Genuine "Toledo" tools have a reputation for efficiency, ease of operation and durability that has never been equalled. Now with the improved adjustment "Toledos" are more desirable than ever, and at new low prices never before reached. Ask your jobber to quote you the new price on the "Toledo" No. 1A tool and extra dies for it.

TRADE MARK

"Toledo" dies are made as nearly perfect as fine steel, skill and experience can produce. They are unquestionably the finest pipe dies in use today and to protect purchasers against inferior substitutes, every genuine "Toledo" die is marked with the "Toledo" trade-mark.

Now these dies for the "Toledo" No. 1A tool can be had at new low prices never thought possible.

THE TOLEDO PIPE THREADING MACHINE CO.
Toledo, Ohio
New York Office: 50 Church Street

CLASSIFIED WANTS

BUSINESS OPPORTUNITY

HAVE approximately 1,400 acres oil and gas lease in one body in Caddo Lake, in producing territory, which will be placed with a reliable driller on a 50-50 basis as to entire tract for one test well. Address Box J. H. L., care The Oil and Gas Journal, Tulsa, Okla.

TAKING OIL LEASES on geological structure, Logan Conuty, near Crescent. Want three men to share equal interest. Reasonable proposition, splendid chance. Two wells drilling, three more to be drilled this spring. Write Mead Johnson, 810 East Cleveland, Guthrie, Okla.

MAN of many years' practical experience in the oil producing business would like to get in touch with oil or gas companies having producing or financial troubles, object, consolidation or refinancing under proper management. Give full particulars as to holdings, financial standing, etc. with first letter. Address Box A-96, care The Oil and Gas Journal, Tulsa, Okla.

NEW MEXICO shallow drilling contract; 10,000 acres solid block; State lease; Roosevelt County. Report indicates oil should be found around 1,000 feet. Will give said block for test or will give block with completed well to said depth for $8,000. Contract let for test joining this block. W. R. Smith, Room 454, 29 South LaSalle Street, Chicago, Ill.

WANTED FINANCE—General geological work has been completed on four different structures in the Mississippi embayment; two others located but work not completed. Am now ready to begin leasing and want someone to finance entire proposition. The chances of the above structures producing oil are more than good. Advertisement answerers and promoters please do not write. Address Box A-94, care The Oil and Gas Journal, Tulsa, Okla.

Big returns on small outlays are in the shallow oil fields when production is found. Two chances for a producing well. We are forming a syndicate to pay for two well located oil leases in the shallow eastern Oklahoma district south of Coffeyville, Kans., and drill two test wells, one on each lease. The syndicate consists of 24 equal units of interest selling at $150 each, payable $75 now and $75 by March 1. A few units remain unsold and prompt action may get you in. Address Walter A. Probst, Trustee, Arkansas City, Kans.

YOURS

There is a section in The Oil and Gas Journal that is absolutely yours. You can use as many lines as you wish and you can tell your story to your fellow readers in the exact way that you want them to become acquainted with it.

Many of your fellow readers who wish to sell or buy equipment, leases, production, refineries, etc., effectively do so by using this result-producing section.

It is the Classified Wants Section. Be sure to read the Classified Wants Section every week. You will find many good ideas there you could use to advantage in your work.

LETTERHEADS—PRINTING

OIL FIELD LEGAL BLANKS—Leases, assignments, releases, township plats, gauge books, run tickets, time books, well records, etc. Request on your letterhead gets free catalogue. Olds Press, 215 East Third St., Tulsa, Okla

MAILING LISTS

GUARANTEED Mailing Lists (or calling lists) of oil company purchasing agents and superintendents throughout entire Mid-Continent Field. Oil Industry Register, P. O. Box 1742, Tulsa, Okla.

107 NAMES of lease buyers of largest oil companies in Tulsa. For sale by Oil Industry Register, P. O. Box 1742, Tulsa, Okla. Phone Osage 574.

INCORPORATIONS

DELAWARE incorporator. Charters; fees small; forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

COMPANIES ORGANIZED — Business problems solved and complete service given. Accounting systems installed. Consolidations and reorganizations effected. Vogelaar, 1039 South Second St., Salt Lake, Utah.

WELL LOGS

WELL LOGS — Logs of practically every well drilled in Amarillo district, also Beckham County. Postpaid, $6 per dozen; assorted. Rubie Vaughan, Shamrock, Tex.

PATENTS

I own valuable patents on bolted metal tank construction. Demonstrated practical both domestic and export. Offer liberal share and control of capital to manufacture. Address Box A-90, care The Oil and Gas Journal, Tulsa, Okla.

LEGAL

TRIBAL OSAGE OIL LEASES AT PUBLIC AUCTION, MARCH 18 AND 19, 1924, BY U. S. GOVERNMENT.

March 18 and 19, 1924, at Pawhuska, Oklahoma, about 100,000 acres will be offered for oil leases in quarter-section tracts. Bids will be for bonus in addition to royalties, 25 per cent payable on day of sale, balace in 3 annual instalments, with acceptable security. Within advertised area there are about 8,690 oil wells producing from 1 barrel to 5,000 barrels each, the total daily production for December, 1923, being about 90,000 barrels; also, there are about 242 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for 50 cents each, also logs of producing oil or gas wells for 25 cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs, or other information.

TOO LATE TO CLASSIFY

PROTECTION ACREAGE—In new Alberta oil field; $2,500,000 corporation drilling adjoining ground; wonderful geology; few sections came structure; obtainable through head geologist; production both side. Large British capital coming; complete reports; quadrangles, photographs here. Must act promptly. Address Box A-84, care The Oil and Gas Journal, Tulsa, Okla.

GOOD Kansas farm land for sale. Cash and terms or on crop payment plan. Some real bargains for cash. Emery R. Ray, Ingalls, Kans.

UPWARD TREND GROUP 3 MARKET SUFFERS SETBACK

(Continued from Page 19)

tions due to other independent refiners offering premiums up to 50 cents for crude which they had been buying for several months at the posted price.

During the past week representatives of Kansas refineries have been in Oklahoma endeavoring to make some arrangement through a trade whereby they could increase their crude supply at their Kansas plants. Premiums are being offered in this instance and many others. The crude situation is getting "tighter" daily despite the decline in the value of refined products. Herein lies the answer to the question as to whether crude prices have reached the peak for the present as some have hoped. It seems certain that refiners are still faced with advancing crude costs in Oklahoma with further increases a probable development in the near future.

Gasolines and Naphthas

There is little more to state regarding the gasoline and naphtha market than the price declines already noted. Although the slump was more apparent in New Navy the higher gravities and naphtha also suffered. Naphtha is still comparatively scarce but buyers for blending purposes forced lower prices made necessary by the lower prices received for their products. There were also several buyers in the market for 60-62, 400 and the prices on that grade was practically unchanged until the first of the week. Shipments of 64-66, 475 like New Navy were few and in small quantities.

The lower gasoline prices have appar-

SINCE 1900

ACME FISHING & DRILLING TOOLS

have been proving their worth day in and day out wherever oil is drilled.

If you are not familiar with Acme Service get in touch with the nearest Acme distributor today. There's one in your territory.

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Parkersburg, W. Va.

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BAKER CASING SHOE CO.

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Oil Well Specialties for Advanced Methods Practical and Dependable

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Anchor Wall Packers
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Die Collars Tight
Gas Traps
Hinged Spiders
Heaving Plugs
Pitman Ends
Plain Casing Shoes
Regular Hook Wall Packers
Release Hook Wall Packers
Rotary Bits Baker Type
Rotary Hole Guides
Rotary Shoes
Rotary Tool Joints
Rotary Wall Hooks
Split Shoe Guides

All Supply Houses or Direct

The men who read the Classified Wants Section of The Oil and Gas Journal control a large percentage of the buying power of the oil and gas industry. Let them see your advertisement in the Classified Wants Section.

ently aided the jobbers who have been seeking marginal contrats over the remainder of the year. Several of these contracts have been placed recently with margins from 4 to 4½ cents. Further, some contracts have been placed based on the present open market price for New Navy with full advantages to be taken of any tank wagon changes.

Kerosene and Distillates

Refiners in probably most instances have not changed their quotations to the trade. But a few plants have considerable quantities which have been offered under the asking price of last week. One purchase of 50 cars of 41-43 water white at 5¾ cents is known and a smaller sale at 5⅞ cents was reported. The price to the trade on 41-43 and 42-43 grades is generally from 6¼ to 6¾ cents.

Distillate prices are generally firm. Buyers have been endeavoring to obtain price concessions but the demand is fair to good and lower prices are rare.

Fuel and Gas Oils

Fuel and gas oil prices are lower. Fuel oil of 24-26 gravity was sold as low as $1.17½, although several plants are still moving their surplus over contract requirements at $1.25 and $1.30. The lower prices generally come from plants located off the main rail lines. The railroads are still buying on the open market and plants located on their lines have not lowered their prices. Some of the 22-24 grade of the south Oklahoma district was offered as low as $1.15. Gas oil started dropping last week and at this writing is available at 3½ cents with one 50-car purchase at ⅜ reported.

Natural Gasolines and Blends

Natural gasolines and blends slumped along with the straight run products and their future trend it is still agreed will probably follow very closely any changes in the refinery gasolines. Natural gasoline was reported stored in tank cars awaiting purchase. All grades were available at lower prices with few new inquiries. The blend situation was unchanged. One larger blender stated that he had no new inquiries for 10 days.

Neutrals

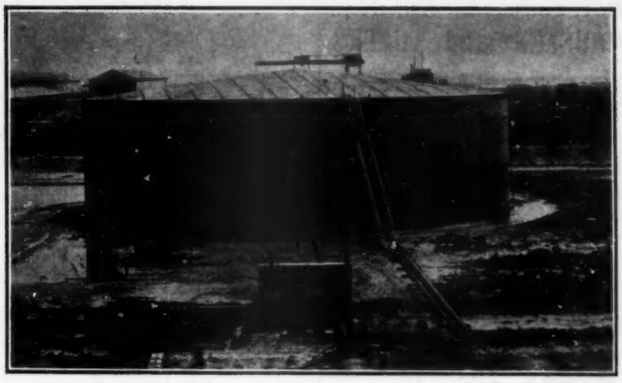
Cosden & Co. announced a new scale of prices effective Tuesday. These new prices represent a 1-cent advance on most grades of pale neutrals and 2 cents on red neutrals. The 100 viscosities were unchanged. All makers of neutrals report a fair to strong demand and it is probable that a majority of the new prices will be general within a few days.

California Standard Resents Resolution To Take Its Lands

SAN FRANCISCO, Calif., Feb. 9.—With reference to the resolution adopted by the United States Senate for the recovery of Sections 16 and 36 of Naval Reserve No. 1, the Standard Oil Co. of California says: "The company has no Section 16 in No. 1 Reserve. The decision made by Secretary Fall in 1921 in respect to Section 36 is beyond criticism. The attempt to link the Standard Oil Co. with the scandal in respect to Naval Reserve leases is absolutely unwarranted and unfair. The company has no interest direct or indirect in a single acre of naval reserve leases.

Secretary Fall decided this section of land was not known to be valuable for oil in 1903, and that the State of California and its purchasers had good title. Under the law it was his duty to decide this case and he could not correctly have decided it otherwise. Any other decision would have been a gross injustice to the owners who drilled on the land, relying on title vested in the State for 15 years.

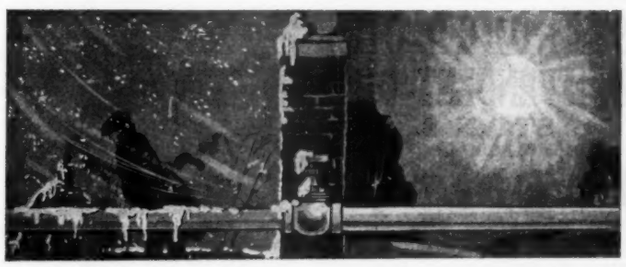
"As a matter of fact, the decision added nothing to the title and he could not have reasonably held that land, decided to be worthless for oil in 1904 and believed to be worthless for oil in 1916, was known to be valuable for oil in 1903. Agitation in respect to the matter is apparently an endeavor to involve Stand-Oil Co. in a controversy with which it has no concern and is apparently based on disregard of law and facts."



55,000 Bbl. Tank

New Roof Completely **Welded.** Bottom and Shell Repaired by **Welding** all Seams and Rivets—with Wilson Welding Machines and Wilson "Color-tipt" Welding Wire.

Wilson Welder & Metals Co., Inc.
New York
Distributors in Principal Cities



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Does not affect Wheeling Pipe. The test of years under all climatic conditions is the best evidence we can present for the durability and dependability of Wheeling Pipe.

Specify Wheeling high grade

Rotary Pipe
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WHEELING STEEL CORPORATION
Wheeling, W. Va.

Buy Only the Genuine
MAUSERS and LUGERS

Genuine Pre-War
Long Lugers
9 mm. Cal.—6" $25; 8" $30. Luger Automatics: Reg. Model, 30 Cal.—$25; HOLSTERS: 30 Cal.—$2.50; AMMUNITION: 30 Cal.—$4.55; 9mm.—$4.75. WOOD STOCK complete with leather holster, pouch, etc.—$12.50; Wood Stock only—$3. LUGER Magazines, 32-shot—$15.

Genuine MAUSER
25 Cal., Vest Pocket, 8 shots—$14; 25 Cal., Reg. Model, 10 shots—$14; 32 Cal., Reg. Model, 9 shots—$15; Holsters, either cal.—$1.50; Mauser Ammunition, per 100, 25 Cal.—$2.90; 32 Cal.—$3.15; 7.63mm—$4.55; 9mm.—$5.50.
Mauser Automatic, with wood holster, stock, leather straps, etc. 10-shot Pistol or rifle—$35.

We are sole importers of Genuine, Original
MAUSER SPORTING RIFLES
30-06 Government Rifles and all other calibers and styles. If interested, Write for descriptive circular.

A complete stock of Repair Parts and Ammunition always on hand. Every Mauser or Luger Firearm sold by us is guaranteed new and genuine. Beware of imitations. Send money order or draft. No C.O.D's. Satisfaction or money back.

A. F. STOEGER
Sole Authorized Importer of Genuine
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PARCO PETROLEUM PRODUCTS

LA FOLLETTE JUMPS INTO TEAPOT FRAY

(Continued from Page 32)

"Just what was it you were to do in the matter?" asked Senator Walsh.

"I was to see if we could not get some value for his contract. It was reported by my attorney to be a valid and a valuable contract; Mr. Stack, in spite of the contract, had been swept aside by the larger interests, who were going to repudiate any obligation to him."

The Senate voted unanimously to direct the Secretary of the Interior to take steps to recover from the Standard Oil Co. of California Sections 16 and 36 in Elk Hills, Calif. These plots are near the field held by the Doheny interests, which the Government also is seeking to recover along with the Teapot Dome Field.

Into Income Returns

Congressional investigation of the income tax records of H. F. Sinclair and E. L. Doheny and E. L. Doheny, Jr., is proposed in a joint resolution in the House by Representatives Lamar Jeffers of Alabama, and Gordon Browning of Tennessee, Democrats. Jeffers charged "fraud, graft, corruption" and other irregularities in connection with Sinclair's tax records. He asserted Secretary Mellon knew what was going on.

Specially, Jeffers said, Sinclair was given $5,000,000 worth of stock for organizing one of his subsidiary companies. He claimed this stock was valueless but later sold it for $4,000,000 and then claimed a loss of $1,000,000 instead of a profit of $4,000,000.

Senator Dill introduced a resolution in the Senate calling on Secretary Hughes for all diplomatic correspondence leading to oil concessions in Mexico, Costa Rica, Venezuela, Colombia, Argentina, Czecho Slovaki, Portuguese, East Africa, Palestine, Mesopotamia, Persia, Burmah and the Dutch East Indies.

RESEARCH WORK WILL BE GIVEN IMPETUS

(Continued from Page 21)

greater with the less volatile fuels and it was found that the circulating water temperatures had the greatest single effect upon this action; mixture ratio was also found to be important.

The carburetor adjustment was decidedly affected by the air temperature and the fuel viscosity. If the carburetor was adjusted for maximum power at a low air temperature, the mixture would be entirely too rich at higher air temperature. Were carburetor adjustments made so as to give satisfactory preformance with the more viscous fuels, the less viscous fuels were then used in over-rich and wasteful mixtures. Uniformity in fuel viscosity as well as fuel volatility seems, therefore, important for economy.

OIL PROGRESS IN SARAWAK

The present weekly production of the Sarawak fields amounts to about 11,000 tons. These oils, says the London Petroleum Times, are by no means well known in comparison with those of the East Borneo fields, so that, so far, few—if any—investigators have turned their attention to the subject. The crude is, so far, produced in the Miri area, about 150 miles south of Brunei Bay. It occurs in sands of Miocene age, which are folded into a well-marked anticline, which is characterized by a series of minor faults and small overfolds. Oil has so far been found at all depths, down to about 2,000 feet, the deepest level worked. The character of the oil is, as yet observed, generally uniform; but there is a distinct change in specific gravity with increase of depth, the lighter oil being found at greater depths, as is also the case of the Koetei fields of East Borneo. The oil is of the naphthenic type, but the recent appearance of a paraffin-base oil at about 1,950 feet leads one to suspect that, as is the case in East Borneo, wax-bearing oils may be characteristic of the lower levels.

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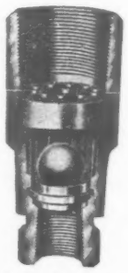

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POTTAWATOMIE COUNTY PROMISED OIL REVIVAL

SHAWNEE, Okla., Feb. 11—Pottawatomie County is offering three avenues to the oil fraternity. Its north side, and particularly the western half, is being occupied by the overflow of the migration that has covered the entire south half of Lincoln County. Renewed activity at Maud has re-created interest in the east-central section. The Slick gas discovery near Konawa has led to heavy blocking over the southeastern part.

The Stroud deep-sand discovery in Lincoln County was chiefly responsible for the Pottawatomie County revival. Several deep tests have been drilled, principally on the south side, but it is not reported any have gone below 4,000 feet. Several have been drilled below 3,000 feet. One near Maud found an oil sand at 3,750 feet. The outlook is for deep drilling with cable tools.

Entrance of the Pierce Oil Corp. into the southern townships is said to have been followed by lease purchases by the Sinclair Oil & Refining Co. While many geologists have reported no surface indications of structures in the sandy areas of that territory several major companies who leased there several years ago have regularly paid their rentals and refused offers to buy. The Pierce Oil Corp. and McMan Bros. have spudded a test in Section 19-7-3, about 7 miles north of the Canadian River. Near Wanette the Day Oil Co. of Oklahoma City is drilling below 2,000 feet.

Three deep tests are promised on the north side of the county, in addition to that by the Day Oil Co., west of Shawnee. Hartley & Blauner in Section 13-11-3 have set 10-inch casing at 2,012 feet, presumably at the base of the redbeds. The J. C. Cook Oil Co. is to drill in Section 32-11-2, in the northwestern township, and the Pierce Oil Corp. and McMan Bros. have spudded in Section 25-10-4. The Cook Co. is reported also to have contracted to drill between Tribbey and Romulus in Section 7-2.

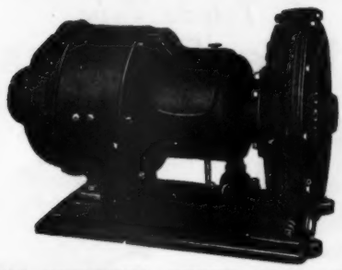
Two blocks have been completed along the Canadian River west of Konawa. West of these and clear across the southern part of the county are leases of the Magnolia Petroleum Co., W. R. Ramsey and others.

MAKING NEW MEXICO PIPE LINE SURVEYS

CASPER, Wyo., Feb. 9.—The Midwest Refining Co. has completed two preliminary surveys covering prospective pipe line routes from the Hogback Dome, in New Mexico, to the railroad. It is understood that the surveys do not indicate the immediate construction of a pipe line outlet for the new field. There is also some talk of a railroad extension which would afford an outlet for the shut-in production on the Hogback structure. There are now three producing wells in the field, with a possible production of over 3,000 bbls. daily, and another well under way. It is reported from Denver that the Midwest has leased some of its edge acreage for immediate development by outside concerns.

RULING ON OIL RATES

WASHINGTON, D. C., Feb. 11.—Freight rates on gas oil from points in Oklahoma and Kansas to Omaha, Neb., in many cases to have been found unreasonable by the Interstate Commerce Commission. The rates declared just by the commission were as follows: 26.5 cents per 100 pounds from Wichita, Kans.; 30.5 cents from Muskogee; 33 cents from Allen and 32 cents from Drumright. Rates on fuel oil also were found unreasonable when they exceeded 36 cents per 100 pounds from El Dorado to Fullerton and 37.5 cents from Cushing to Osceola. The railroads were ordered to pay reparations for overcharges.



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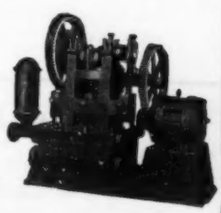

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Work of Geologist In Search for Oil Is Told Over Radio

By Fred Wood
Geologist, Midwest Refining Co.
Broadcast from Casper, Wyo. Radio Station

The geologist who has been popularly thought to use some mysterious power is by no means a diviner but employ the most scientific tools and methods in his work. With a knowledge developed from a study of geology and oil operations he goes into the field and attempts to find areas where all the necessary natural conditions for oil accumulation may be present.

In entering new areas, similar to those encountered in Wyoming, he will first make a detailed study of the rocks known as sedimentaries because these are the type of rocks which contain commercial oil deposits. These sedimentary rocks were deposited on the bottoms of seas or lakes as small particles of sand, silt, loams, soils, granites and other rocks which have been broken up by erosion and carried to these seas or lakes by the streams. Erosion is caused by rains, streams, frosts and other forces in nature. These seas at one time covered the lands on which we now live and changed in size and areal extent from time to time.

As a result of being deposited on sea and lake bottoms the sedimentaries are stratified or lie in layers or beds. As they were laid down millions or even billions of years ago they have had time to harden, with the aid of natural cements into what are now known as sandstones, shales and limestones, which make up the principal rocks in the sedimentaries. These succeed each other in varying orders and in varying thicknesses. The more porous beds, such as sandstones, form the principal reservoirs for the oil. These sandstones, under favorable reservoir conditions, are between two layers, above and below, which will not permit the passage of oil so that the oil is held in the reservoir sand.

Due to the movements in the earth's crust in coming to equilibrium from time to time, these strata were crumpled, compressed and disturbed in one manner or another, and, as a result, became tilted and warped in shape, similar to the warping of wood, except that these warpnigs extend over the large areas covered by these beds. Some of the warping in these strata are favorable for the trapping of oil and it is these the geologist looks for. As oil rises above water in a glass so does oil rise above water in a sandstone, and if the warping of the strata, including the sand containing oil, is arched upward, as an inverted breakfast bowl, the oil will be trapped and held up in this type of a warping by water which would surround the part of the warping at a point similar to the rim of the upturned bowl. These warpings are called structures and the most common type of these is called the anticline.

A geologist in the field will go to the places where streams have cut deep into the sedimentaries, or other places where all or many of the beds are exposed at the surface where he will study them and try to find favorable reservoir sands. If he is successful in finding such a sand he will make special notes on all the beds above, and some distance below, so that if he encounters any one of the beds on the surface he will be able to identify it, and then in connection with a well to be drilled he would know just how many beds he would have to go through before he would strike the favorable reservoir sand he has found. He will then measure the thickness of the beds, using a surveyor's methods.

After he has studied the beds he will examine the surrounding country for anticlines, which are determined by the tilting of the strata as noted on the surface. When he finds one he will make a map of the area. He will measure with mathematical accuracy the intensity of

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the tilting of the beds and will locate each point of observation on his map. He is then in a position to calculate the size of the structure and to show its shape and correct attitude. By identifying the formation on the surface and knowing the thickness of the beds between the surface and reservoir sand, he can make rather accurate estimates of the depth if the beds he has examined are at all continuous or uniform. He is then in a position to tell where a well should be located and about how deep it must go. By these methods a geologist greatly reduces the number of wildcat failures.

Lack of Lubrication Disclosed as Cause Of Dust Explosions

A disastrous explosion occurred in the Pekin, Ill., plant of the Corn Products Co. on January 3. Investigation has since revealed that a hot bearing ignited a cloud of very fine dust particles. There is no doubt, says "Power," that many of the so-called spontaneous explosions in flour mills and other plants where material in a finely divided state floats in the air, have been due to similar causes.

Lubricating oil is not costly, in fact is one of the smallest items entering into the power costs of any factory. There is, then, no economic reason why bearings should be permitted to run in a hot condition. Indeed it may be stated with some assurance that seldom, if ever, does the question of cost have any influence.

As a general rule hot bearings may be traced to one of two causes. In too many factories the lineshafts are so placed that the hanger bearings are wellnigh inaccessible. It is expecting the improbable to depend upon the average oiler to crawl up over beams and rotating shafts to lubricate the journals. Too often the bearings must go the day with but a promise on the part of the workman "to oil it tomorrow."

In many industrial processes the likelihood of oil contaminating the product must be eliminated. If the shafting and bearings are poorly designed the dripping of oil can be prevented only by a reduction in the oil fed to the bearings which are often provided with but an oil well and a bit of waste.

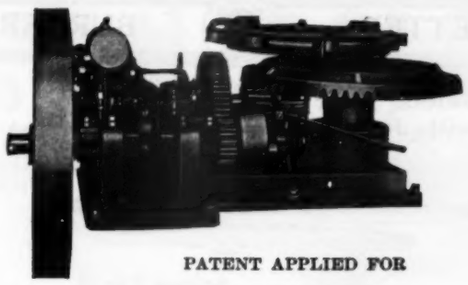
In the design of any building the problem of lineshaft lubrication should be anticipated and provided for in the layout. If oil contamination is objectionable, there are many bearings on the market, of the roller, ball and other types, in which the amount of oil needed is almost insignificant and the dripping trouble avoided. No matter what bearing is used, the hangers should be so placed as to make the oiling possible.

TESTING NEBRASKA

Oil prospects in eastern Nebraska are being explored by the Amerada Petroleum Corp. in a test which is located in the northeast quarter of the southeast quarter of Section 26, Township 11 north, Range 12 east, in Cass County. It is about 36 miles east of Lincoln and about 20 miles south of Omaha in the center of an anticline mapped by the Nebraska Geological Survey and Glen C. Ruby, geologist, of Denver. A Sullivan Machinery Co. diamond drill is being used and the hole is to go 2,500 feet. This is the first oil test to be drilled in the eastern part of the State, although two deep wells were sunk years ago for other purposes. One was in the City of Lincoln and ran into granite at 2,195 feet. The other, in Nebraska City, went to 2,800 feet without finding granite.

OIL IN CZECHO-SLOVAKI

It is learned from Prague that an order permitting the private exploitation of oil has now been issued by the Czecho-Slovakian Government. According to preliminary statistics 766 tons of petrol were exported from Rumania to Czecho-Slovakia during October, 1923.



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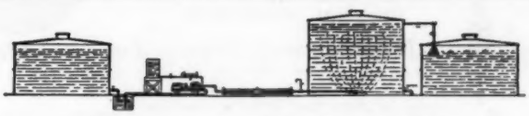

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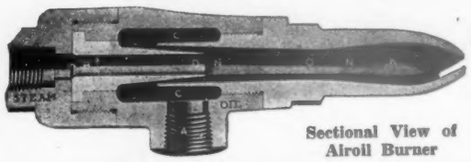

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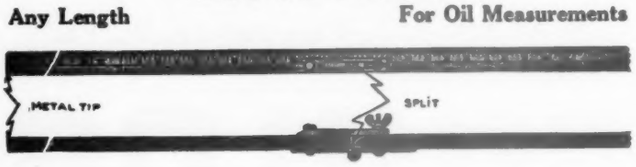

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Origin of Petroleum Still Being Debated By the Scientists

Discussing the theory that petroleum is of organic origin, the scientific correspondent of the London Times calls attention to the fact that as long ago as 1794 Haquet wrote that the greater part, if not the whole, of the oil in the Galician fields had come from the decomposition of marine animals. He also states that in actual laboratory experiments liquids resembling petroleum have been obtained by the distillation of menhaden oil. Menhaden are very small, silvery, herring-like fish. At the present time, he says further, conditions have been observed which suggest that petroleum is still being formed by decomposition.

On the Sardinian and Swedish Coasts it has been found in seaweeds rotting in the sun, and merely under atmospheric pressure. Organic matter, largely algae, in the Black Sea and in the Gulf of Mexico, have been observed forming huge layers of rotting organic substances. In geological times similar conditions must have been reproduced on a large scale, and frequently. It is pointed out that in California the Eocene beds contain broad expanses of marine shells more than 4,000 feet thick, comprising "organic matter sufficient for the origin of all the oil in those fields."

"The evidence seems to show," says the writer, "that the formation of petroleum, like that of coal, took place at moderate temperatures and at pressures of no great amount, although varying in different localities. But while coal has been produced almost exclusively from vegetation on land or in fresh water swamps, petroleum has come chiefly from marine organisms with a considerable preponderance of animal matter.

Decomposed by Bacteria

"The remains of these marine organisms have accumulated at the bottom of saline or brackish seas and lagoons and have been subjected to decomposition by aerobic bacteria with the formation of gases and soluble substances. The fats have been transformed to soluble glycerine and fatty acids, and the presence of the salt has modified the ordinary course of decay in the direction of the formation of petroleum.

"The presence of phosphorus, sulphur and nitrogen and the peculiar optical activity of petroleum can all be explained by this theory of origin. If the decomposition took place in a fine mud which became clay, the oil would remain there; if in sand, it would migrate. The varied composition of petroleum is to be referred to the varying nature of the parent substance, to the effects of earth pressure in geological times and to the changes produced in the course of migration."

References to petroleum are to be traced back into far ancient times. Herodotus described the oil pits near Babylon, and petroleum is supposed to have been not only known but coveted from that day to this. Probably no other product has received much more attention or called into being a greater army of experts—engineers, chemists, geologists and the like. Petroleum is sought everywhere, in barren uplands and tropic forests. Its distribution in geological formations is known with comparative accuracy, the chemical and physical properties of the forms in which it occurs having been investigated with minute thoroughness.

A difference of opinion, however, still exists on the point of its origin, even as to whether it is of animal, vegetable or mineral origin. Dr. E. E. Spielmann, writing recently on the subject, tells of assembling no less than 100 papers printed in scientific journals between 1912 and 1922 on the origin of petroleum. The doctor, incidentally, hesitates to give a decisive verdict.

Old Theories Reviewed

The theory that petroleum was of inorganic origin was held more than a century ago by von Humboldt, who thought it was an emanation or product of distillation from primeval rocks at an immense depth. The distinguished chemists,

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Berthelot and Mendeleeff, ascribed its formation to purely chemical action, at great depths, on the analogy of the action of water on metallic carbides as in the manufacture of "water gas."

"Similar theories have found more recent support," says the correspondent. "It has been assumed that the center of the earth is occupied by a mass of very impure iron in a liquid form, at great pressure. When surface water percolated down to the iron mass it would have a temperature of from 1,000 to 1,500 degrees centigrade, and be under a pressure of 2,000 atmospheres, conditions which would lead to the formation of solid and liquid hydrocarbons such as compose petroleum. But there is no real evidence for the existence of the central mass of iron. Oil is not found in any of the deep strata, and the presence, in most varieties of petroleum, of nitrogen, phosphorus and sulphur, is difficult to explain on this theory.

"An increasing majority of those who have studied the chemistry of petroleum and the natural conditions under which it occurs have formed the opinion that it is of organic origin. At first such views tended to the belief that it was a product of natural distillation of coal or of similar carbonaceous matter. Distillation, under rather wide conditions of temperature and pressure has resulted, in the laboratory, in the production of liquids similar to natural oil.

"But there is not enough evidence of the existence of high temperatures such as might be the result of volcanic action in a majority of the natural sources of petroleum, and, on the other hand, there is little evidence as to the equivalence of high temperatures acting for a few hours in the laboratory and low temperatures acting through geological ages."

MEXICAN SUBSIDIARY OF MARLAND MERGED

PONCA CITY, Okla., Feb. 11.—The merger of the Marland Oil Co. of Mexico, with the Marland Oil Co. of Delaware, has been consummated through the acceptance of sufficient stockholders. The parent company through the Kay County Gas Co., another subsidiary, already owned approximately 73 per cent of the Marland of Mexico.

The merger takes with it also the Consolidated Oil of Mexico, an associated company of Marland Oil of Mexico. The rate of exchange eight shares of Marland of Mexico or 23½ shares of Consolidated Oil of Mexico for one of Marland Oil. It is understood a sufficient exchange was made to place the parent organization in control of approximately 90 per cent of the Mexican firms.

OKLAHOMA INCREASES OIL TAX SCHEDULES

OKLAHOMA CITY, Okla., Feb. 11.—Changes in the ad valorem tax schedule for oil in storage were made by the State board of equalization, which, according to Fred Parkinson, State examiner and inspector and a member of the board, will net the State and its subdivisions approximately $1,500,000 more in valuation.

The new schedule provides assessments on the price of oil as follows:

Mid-Continent—75 cents for oil below 33 gravity, $1 for oil 33 to 39.9 gravity and $1.25 for oil above 40 gravity. The price in the Healdton Field, upon which the schedule is based, was 50 cents below 28 gravity, 75 cents for 28 to 30.9 gravity and 90 cents for 31 to 32 gravity.

The new schedule provides that oil in storage less than 30 days is to be assessed at the market value for fresh oil; that in storage not less than 30 days and not more than one year at 10 per cent less than the market value for fresh oil and that in storage more than a year at 25 per cent less than the fresh market value.

In making the changes, the board of equalization was addressed by Ludwig Schmidt of the United States Bureau of Mines at Bartlesville.

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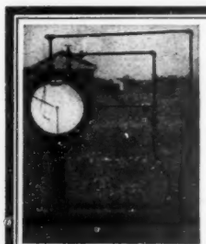

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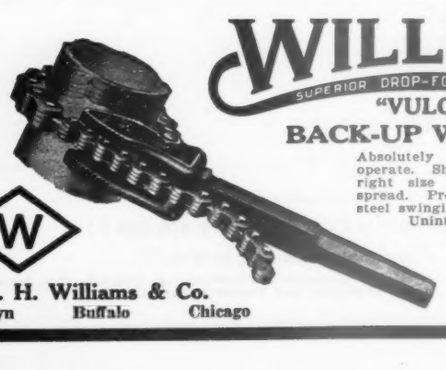

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Standard Defines Its Attitude Towards Persian Oil Lands

The Standard Oil Co. of New Jersey, in a statement published in the current issue of The Lamp, its official organ, answers inquiries it has received in recent months that the company has affiliated itself with a British company for the development of oil concessions in North Persia, the alliance being "for the purpose of excluding an American company from obtaining concessions in Persia."

The answer of Standard Oil is made partly as a result of receipt of a letter from A. G. Berger, of Gildford, Mont., which contains the following:

"I have read with considerable interest articles relating to the future supply of petroleum products, and the active participation of certain countries in procuring concessions on prospective oil lands in foreign countries. One article refers to your corporation as having become associated with a British syndicate for the purpose of excluding an American company from procuring concessions on certain tracts in Persia. In view of the apparent necessity of concerted action in the United States to preserve and assure the future supply of petroleum products, will you kindly, at your convenience and pleasure, give me some information in the premises to correct any misinterpretation that other readers and the writer could gain from the article."

The company's reply, which was sent under date of January 18, 1924, concurs with the opinion of the writer that "there is an apparent necessity for concerted action in the United States to preserve and assure the future supply of petroleum products," especially "in respect to obtaining production in foreign fields."

The statement further says that the article referred to by the correspondent has not been read by officials of the company, consequently, it cannot be answered in detail.

"Speaking generally, however," says the statement, "we presume the reference is to a proposed oil concession upon four out of five provinces in the north of Persia recently offered by the Persian Government to American oil companies, in connection with a $10,000,000 loan to be made to that Government, and to the recent contract in relation to those matters which is reported in the press to have been made between that Government and the Sinclair interests. If this assumption is correct, then it is not true that our company has become associated with a British syndicate for the purpose of excluding an American company from procuring these concessions."

"It is a matter of common knowledge," the statement continues, "that three and one-quarter provinces out of the four above referred to are covered by prior concessionary grants for oil made by the Persian Government. These prior concessions were given by that Government in 1896 to Sepahsalar Azam, and in 1916 to one Khostaria, respectively. The rights under these concessions passed, during the year 1920, to the control of the Anglo-Persian Oil Co., Ltd., through a purchase from Khostaria and his associates by its subsidiary, North Persian Oils, Ltd.

"In this connection, it is to be noted that the Persian Government has claimed that these prior grants are invalid, and that it will not recognize them. But the British foreign office asserts their validity. This dispute has not been judicially determined."

The company goes into detail concerning its negotiations wth the Persian Government regarding the concession granted November, 1921, the protests which followed, the conferences held with the State Department, and the deal made with the Anglo-Persian Oil Co. to operate the concession on a fifty-fifty basis. Standard of New Jersey still retains this one-half interest in those earlier Persian grants.

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Detailed Operations in Western Fields for January, 1924

SUMMARY OF ALL FIELDS

Fields—	Wells Completed Comp.	Prod.	Dry	Gas
Eastern	259	576	45	79
Lima	31	641	4	2
Indiana	18	559	6	1
Central Ohio	50	43	17	31
Kentucky-Tennessee	60	568	17	7
Illinois	2	35	1	0
Kansas	37	1,045	17	7
Oklahoma	236	32,764	62	46
North Texas	165	11,693	64	4
East Central Texas	48	11,573	7	1
Louisiana-Arkansas	126	11,439	22	19
Gulf Coast	71	16,990	17	5
Wyoming-Mississippi	30	7,970	0	0
Total January	1,133	95,896	279	202
Total December	1,325	151,304	353	219
Difference	192	55,408	74	17

Fields—	Rigs and Wells Drilling Rigs	Drg.	Total
Eastern	173	325	498
Lima	3	35	38
Indiana	0	21	21
Central Ohio	33	115	148
Kentucky-Tennessee	5	207	212
Mississippi	2	19	21
Alabama	0	11	11
Georgia	1	3	4
Florida	5	9	14
Illinois	5	15	20
Kansas	66	134	200
Oklahoma	255	1,085	1,340
North Texas	86	220	306
East Central Texas	15	104	119
Louisiana-Arkansas	101	294	395
Gulf Coast	99	274	373
Wyoming	87	332	419
Montana	19	158	177
Utah	1	25	26
Total January	956	3,386	4,342
Total December	823	3,206	4,029
Difference	133	180	313

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. The rigs and drilling wells are set forth in a similar manner. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Washington-Nowata-Rogers	0	0	0	0
Osage	39	9,787	6	11
Tulsa	17	685	7	3
Okmulgee	27	1,700	11	3
Okfuskee-Hughes-Seminole-McIntosh	19	2,270	5	6
Muskogee-Wagoner	10	200	4	2
Creek	26	1,677	4	7
Pawnee	11	980	2	1
Payne	2	200	1	0
Kay	15	5,035	2	3
Garfield-Noble	12	2,108	1	2
Carter	27	5,212	3	2
Stephens-Cotton	14	75	6	3
Miscellaneous	17	2,835	10	3
Total January	236	32,764	62	46
Total December	277	27,795	95	36
Difference	41	4,969	33	10

Summary of New Operations

County—	Rigs	Drg.	Ttl.
Washington-Nowata-Rogers	0	0	0
Osage	46	165	211
Tulsa	6	40	46
Okmulgee	14	54	68
Okfuskee-Hughes-Seminole-McIntosh	18	99	117
Muskogee-Wagoner	6	15	21
Creek	23	82	105
Pawnee	7	28	35
Payne	2	7	9
Kay	67	159	226
Garfield-Noble	14	91	105
Carter	12	113	125
Stephens-Cotton	3	17	20
Miscellaneous	37	215	252
Total January	255	1,085	1,340
Total December	194	996	1,190
Difference	61	89	150

OSAGE COUNTY

1-26-12 F. A. Gillespie 21 96
1-26-12 Barnsdall Oil 18 12
27-26-12 Superior Oil et al 5 ..... gas
Oklahoma Natural Gas 632... gas
28-26-12 Peer Oil 2 1500
29-21-12 Barnsdall Oil 16 290
1-22-10 Mutual Oil 5 80
34-22-10 Tidal Osage Oil 31 2300
9-22-11 Owen-Osage 262 ..... gas
Owen-Osage 256 ..... gas
9-22-12 Owen-Osage 264 ..... dry
34-29-11 Indian Territory Illum. 319... gas
13-24-11 Owen Osage 265 ..... dry
17-24- 9 Number One Oil 6 40
27-25- 9 Sam Sitrin 21-A 20
4-26- 9 C. B. Peters 11 60
28-26-12 Munn Bros. et al 200
21-26-11 Sand Springs Home 1 28
Sand Springs Home 4 ..... dry
33-25-12 Osage-Allegheny 2 ..... dry
23-26- 9 C. B. Peters 1 ..... dry
23-22- 8 Thompson, Black et al 1..... 100
17-23-11 Owen Osage 262 ..... gas
34-29-11 Indian Territory Illum. 318... gas
32-24- 8 Mutual Oil 3 20
29-26- 8 The Texas Co.* 2 ..... gas
8-20-10 Bell Oil & Gas 1 40
9-20-12 Barnsdall Oil 21 150
1-22-10 Mutual Oil 1-A 700
9-22-11 Owen-Osage Oil 258 ..... dry
23-23-10 Gilliland Oil 3 15
30-28-10 American Pipe Line 89 ..... gas
28-28-11 Owen-Osage 267 ..... gas
10-27-11 Owen-Osage 266 ..... gas
22-27- 5 Gypsy Oil 1 385
10-27-10 Oklahoma P. & R. 1 20
22-27- 5 Gypsy Oil 11 1200
23-27- 5 Phillips Pet. 4 400
Gypsy Oil 7 340

Wells completed 39
Production 9787
Dry 6
Gas 11
Gas production 47,250,000

TULSA COUNTY

5-19-14 Childers, John Hilt 1 ..... abd
4-17-14 Doyle, H. & S. Oil 2 ..... gas
34-19-13 Vannest, Flesher Pet. 1-A ... dry
12-18-12 Tiger, Flesher Pet. 3-A..... gas
4-17-14 Rentie, Lea Drilling 1..... dry
Perryman, Dan Danciger 1 .. dry
18-17-15 Wheat, Stone Bluff Synd. 1.. 10
6-19-12 Bruner, Shaffer O. & R. 1... 430
6-18-13 Sango, Hancock et al 1..... dry
27-16-12 Coleman, Independent O. & G. 4 150
9-18-13 Bruner, Elliott & Sons 2..... 10
16-19-12 Spring, Sand Springs Home 1... 40
35-19-13 Wray, Flesher Pet. 3 ..... dry
7-18-15 Presley, Mays Brothers 5..... 5
10-18-10 Unknown, C. W. Titus 1..... 40
17-16-13 Brown, McCullough 1-A..... dry
18-16-13 McCoy, Winemiller 3 ..... gas

Wells completed 17
Production 685
Dry 7
Gas 3
Gas production 12,000,000

OKMULGEE COUNTY

35-15-14 Grayson, M. L. Carr 36 10
25-13-14 Unallotted, W. E. Reynolds 1.. dry
16-14-14 Colbert, Hutchinson 1 ..... dry
32-14-14 Hardridge, Jordan & Ashley 1 125
35-14-14 Anderson, Wooster Oil 3 10
19-15-12 Jefferson, Savoy & Maberry 2 35
36-11-13 Nero, Stanford et al 3..... dry
5-11-12 Hawkins, Grundish 3 ..... dry
6-12-12 Mitchell, Gladys Belle et al 3. 560
26-13-11 Murrell, E. R. Black 2 55
30-13-15 Brisco, C. E. Campbell 4..... gas
31-13-13 Holleman, E. F. Alden 1..... dry
34-12-12 Wolf, Eagle Picher Oil 4 ..... gas
14-15-12 Williams, Clean Oil 2 ..... gas
28-15-11 Johnson, Sheridan Oil 1 ..... dry
3-15-11 Grayson, Wolford Oil 2..... 15
1-15-11 Grayson, Transcontinental Oil 6 ..... dry
31-13-12 Unallotted, Waxler & Presler 2 20
17-16-13 Browning, McCullough et al 1 dry
29-13-14 Wiley, Frank Tavel 2-A ..... dry
1-15-11 Cousins, Santonio 2 20
2-15-11 Grayson, Troy Oil 13 30
3-15-11 Grayson, Hiram Oil 1 10
14-15-11 Richards, Waite Phillips 2.... 20
24-16-12 Tiger, Oklahoma Nat. Gas 5.. 800
31-13-11 Holahta, Denver P. & R. 7... dry
32-13-11 Thomas, Ohio-Okla Oil 1..... dry

Wells completed 27
Production 1700
Dry 11
Gas 3
Gas production 13,000,000

OKFUSKEE, HUGHES, SEMINOLE AND McINTOSH COUNTIES

17-11-14 Cumberledge, Wooster Oil 4.... gas
27-11-15 Ireland, H. & H. Oil 5 10
13-12-11 Sugar, North Baltimore Oil 5. dry
9-10-10 Lindsay, Gilcrease Oil 1 ..... dry
11-10-11 Hill, Transcontinental Oil 1... dry
4- 9- 9 Simon, Papoose Oil 1 400
32- 8- 8 Foster, Dixie Oil 3 800
Long, Producers & Refiners 2. 200
29-11-17 Scott, Oklahoma Nat. Gas 1... gas
28- 8- 8 Foster, Dixie Oil 1 430
32- 8- 8 Foster, Dixie Oil 4 330
25- 8- 7 Rosanna, Dixie Oil 1 ..... gas
9- 9-11 Bruner, Mid-Kansas O. & G. 2 50
15- 9- 8 Anaise, Independent Oil & Gas 1 ..... dry
25- 6- 6 Mingo, T. B. Slick 1 ..... gas
1-12-11 Thompson, Fair et al 4..... 50
12-12-11 Buckley, Henry Oil 1 ..... gas
20- 9-10 Buck, Shaffer Oil & Ref. 1... gas
18-11- 9 Holatha, Link Oil 1 ..... dry

Wells completed 19
Production 2270
Dry 5
Gas 4
Gas production 42,000,000

MUSKOGEE-WAGONER COUNTIES

27-14-15 Jefferson, A. G. Haslett 1 .... abd
24-14-16 Tipton, Roxaline Oil 4..... dry
15-17-16 Berryhill, Briscoe & Whaleback 2 20
1-17-17 Taylor, Metgrae 1 20
15-15-16 Harrison, Corry et al 1 ..... dry
19-15-14 Harrison, A. W. Cline 1..... gas
4-15-15 McDaniels, Wm. Harsha 2.... dry
10-17-16 Stephens, Gillam et al 3 110
16-17-16 Cully, Wagner et al 2 50
32-17-16 Sarty, Barnes et al 4 ..... gas

Wells completed 10
Production 200
Dry 4
Gas 2
Gas production 3,000,000

CREEK COUNTY

11-17-10 Wrightsman, Wilcox & Whitten 1-A ..... gas
19-17- 9 Big Mosquito, C. P. Davis 2... gas
21-15- 8 Wilson, Schermerhorn Oil 1... dry
14-16- 8 Canada, Phillips Pet. 5 360
21-16- 9 Jacobs, Emery et al 4 10
Hendrickson, Nowata Oil & Ref. 2 50
30-14- 8 Kirnal, Waite Phillips 1 ..... dry
34-15-10 Sewell, Canadian Producing 2 50
30-17- 9 Galvez Oil 2 ..... gas
23-15-10 McIntosh, Cumberlan Pet. 5... 10
16-14-10 Bear, R. D. Donnelly et al 2.. gas
22-17- 8 Mitchell, Transcontinental Oil 1 30
33-17- 8 Alex, Sartain Bros. 2 ..... dry
30-14- 8 Kirnal, Prairie Oil & Gas 3... 700
Jackson, Roxana Pet. 2 30
35-17-10 Bucktrot, H. C. Wilson 2..... gas
14-19- 8 Lewis, Kiskadden & Crane 1... 40
26-19- 8 Foster, Kiskadden et al 1... 12
10-19-10 Johnson, C. W. Titus et al 1.. 40
23-17- 8 Walker, Duquesne Oil 1 30
21-16- 9 Henderson, Roxana Pet. 1.... 262
20-15-10 Good, Mid-West & Gulf Oil 3. abd
30-17- 9 McIntosh, Amerada Pet. 1 ... gas
19-18- 9 Washington, Bartlett et al 1.. gas
3-14-10 Meyers, Tom Kelly 1 15
14-14- 8 Bearhead, Prairie O. & G. 1.. 28

Wells completed 26
Production 1677
Dry 4
Gas 7
Gas production 64,750,000

PAWNEE COUNTY

20-21- 7 Bigjeck, Waxler & Presler 1.. 40
16-20- 6 School Land, Magnolia Pet. 4. 20
8-21- 6 Colclazier, Carter Oil 1..... 5
30-21- 8 Hart, J. B. Grieves 1 45
32-20- 8 Unallotted, C. H. Burton 1 ... abd
24-20- 8 First Natl. Bank, S. W. Oil Fields 6 150
Hamilton, Tidal Oil 10 575
17-21- 6 Phillips, Cosden Oil & Gas 1.. abd
16-20- 6 School Land, Magnolia Pet. 6.. 120
School Land, Magnolia Pet. 1.. gas
17-20- 6 Trevesdale, Carter Oil 2..... 25

Wells completed 11
Production 980
Dry 2
Gas 1
Gas production 3,000,000

PAYNE COUNTY

33-19- 4 Ballard, Magnolia Pet. 5 200
12-17- 4 Biswell, Willis O. & G. 1..... abd

Wells completed 2
Production 200
Dry 1
Gas 0
Gas production 0

KAY COUNTY

33-29-5e Bellmard, Galvez Oil 1 ..... dry
21-29-1e Clink, Spencer et al 1 ..... gas
27-25-1w Suiters, McMan Oil 3 10
34-25-1w Edmiscott, Comar Oil 3-C..... 70
21-27-1e Binney, Ballentine et al 1.... gas
34-25-1w Beverlin, Comar Oil 21-A..... 55
16-27-1w Slocum Analou Oil 2 ..... gas
15-27-1w U. S. Mining, Otstot & Poling 1 45
32-29- 5 Bellmard, McCray et al 1..... dry
4-27- 5 Roxana Pet. 1 850
George Boles 1 1250
9-27- 5 Clubb, Phillips Pet. 7 400
Clubb, Phillips Pet. 8 1600
Hobson, Prairie O. & G. 1 ... 730
27-25-1w Davis, The Texas Co. 1..... 25

Wells completed 15
Production 5035
Dry 2
Gas 1
Gas production 20,500,000

GARFIELD-NOBLE COUNTIES

2-24-1w Blubaugh, Comar Oil C-4 ... 92
3-24-1w Ruzek, Comar Oil 7-A 67
11-24-1w Rence, Healdton Oil & Gas 11-A 60
2-24-1w Gaume, Comar Oil 16 600
10-24-1w Novotony, Prairie O. & G. 7.. 140
12-22-4w Stine, Hopper et al 2 ..... gas
11-24-1w Rence, Healdton Oil & Gas 12 305
16-24-1w School Land, Marland-Cosden 7 200
24-24-1w Gaume, Comar Oil 12 500
29-24-1w Robinson, Tuloma Oil 15 .... dry
2-24-1w Gaume, Comar Oil 13 144
6-22-3w Morgan, Adams et al 2 ..... gas

Wells completed 12
Production 2108
Dry 1
Gas 0
Gas production 5,060,000

CARTER COUNTY

30-2s-2w Sparks, Schermerhorn 4 270
Sparks, Schermerhorn 7..... gas
Ricketts, Schermerhorn 2..... gas
Ellis, Cotton Belt Pet. 2..... 300
Ellis, Cotton Belt Pet. 5..... 150
31-2s-2w Barrow, Healdton Pet. 3..... 100
24-2s-3w Abernathy, Schermerhorn 2.... 687
5-3s-2w Poland, Southerland Oil 2.... 250
Cobb, Merrick et al 2 100
10-4s-2w Dillard, Carter Oil 2 ..... dry
5-3s-2w Palmer, Schermerhorn 1 200
22-4s-2w Dillard, Wolverine Oil 60 60
4-4s-3w Jones, Coline Oil 36 130
23-2s-3w Lahman, Magnolia Pet. 2 400
25-2s-3w Wolfe, Southwestern Pet. 5... 300
20-5s-1e Griner, Amerada Pet. 2 60
9-4s-2w Walker, Sure Oil 2 570
16-4s-2w Fee, Westheimer & Daube 15.. 120
Westheimer, Amster 2 100
22-4s-2w Dillard, Wolverine Oil 30 190
Dillard, Wolverine Oil 102 ... 75
7-3s-3w McFarlan, L. J. Woodruff 1.. dry
6-3s-2w Mayor, C. R. Smith et al 1... 100
24-2s-3w Smith, Magnolia Pet. 1 ..... abd
25-2s-3w Jefferson, Wirt Franklin 2 ... 450
Jefferson, N. L. Amster 2 400
32-2s-2w Palmer, Schermerhorn et al 4 200

Wells completed 27
Production 5212
Dry 5
Gas 2
Gas production 65,000,000

STEPHENS-COTTON COUNTIES

14-1n-9w Atkins, Glenhoma Oil 1..... gas
5-1s-8w Glenn, Walker Valley Oil 1... dry
13-2s-8w Mark, Gant et al 2 ..... gas
2-2s-5w Boles, Magnolia Pet. 2 8
Dillard, Magnolia Pet. 9 8
14-2s-5w Collingsworth, Magnolia Pet. 4 dry
6-2s-4w Striker Doak, Magnolia Pet. 7 8
30-1n-8w Cook, Roxana Pet. 3 ..... dry
Harkin, C. & O. Drilling 1.... abd
32-1n-8w Morgan, Magnolia Pet. 7..... gas
29-4s-10w Barber, Amerada Pet. 1 .... dry
17-2s-7w Wilson, Magnolia Pet. 3..... 1
18-1s-8w Johnson, Magnolia Pet. 4 50
1-1s-5w Doak, Malcona Oil 1 ..... dry

Wells completed 14
Production 75
Dry 6
Gas 3
Gas production 10,000,000

MISCELLANEOUS

Grant County—
7-28-3w Zeck, Marland Ref. 1 ..... abd
Grady County—
23-5n-8w McCaugherty, Stagner et al 1 gas
2-4n-8w Wood, Little Nick Oil 1..... gas
14-4n-8w Pendley, Humble Oil & Ref. 1 dry
35-5n-8w Duke, Magnolia Pet. 1 ..... gas
36-4n-8w Brown, Phillips & Caudill 1.. abd
Garvin County—
8-1n-3w Derdeyn, T. & P. C. & O. 2.. 160
16-1n-3w Mauldin, Magnolia Pet. 3-A... 300
5-3n-3e Gray, Manahan 1 ..... dry
Marshall County—
30-5s-7e Cardinal, Metz Oil 1 ..... abd
Beckham County—
14-9n-26w Gotham, Ship-Nash 1 ..... dry
4- 8-24w A. A. Small et al 1 ..... dry
Lincoln County—
12-14-6 J. A. Hull Oil 1 1945
2-14-6 Jackson, Union Pet. 1 430
Sequoyah County—
20-13-21 Sootawakeky, Empire G. & F. 1 ..... abd
Jefferson County—
5-5s-7w Cox, Hutton Bros. 1..... abd
McClain County—
31-5-4w Gooch, Hall & Briscoe 1 ..... abd

Wells completed 17
Production 2835
Dry 10
Gas 3
Gas production 30,500,000

OSAGE COUNTY

Rigs
8-20-12 F. A. Gillespie 22.
28-20-12 Munn Brothers et al 7.
29-20-12 Winona Oil 1.
27-22-10 Tidal Oil 16.
34-22-10 Tidal Osage Oil 18, 36, 34, 35.
Marland Oil 1-B.
7-20-10 W. J. Atkins et al 1.
11-20-11 Sand Springs Home 2.
7-26-11 New England Oil 1.
34-24-10 C. B. Peters 10.
24-25-11 Phillips Pet. 6.
34-25-11 Devonian Oil 8.
[illegible]-29- 9 Winona Oil 3.
26-26- 8 Connell Pet. 1.
23-24- 8 Tidal Osage Oil 7.
21-24- 9 Tidal Osage Oil 2, 3.
26-24- 9 Marland Refining 9.
Tidal Osage and Comar Oil 3.
17-25- 9 Foster, Davis & Landon 7.
23-22- 8 W. D. Gray et al 1.
29-22- 8 Thompson & Black 2.
1-22- 9 Atlantic Oil Pro. 5-A.
3-23- 8 Superior Oil 2.
10-21- 9 Penn Osage Oil 7.
17-29- 6 Phillips Pet. 5.
4-26- 6 Tidal Osage Oil 10.
20-23- 8 Marland Refining 5, 6, 11.
29-23- 8 Red Bank Oil 4.
6-26- 6 Lorraine Pet. 16.
16-26- 6 Producers & Refiners 13.
17-27- 6 Peters-Oliphant et al 3.
35-23- 7 Gypsy Oil 10, 11.
33-28- 5 Waite Phillips 2.
1-26- 5 I. D. Simons 7, 13, 14.
25-27- 5 Skelly-Phillips 2, 3, 8.
Wells Drilling
21-20-12 Peer Oil 1.
Tidal Osage Oil 1, 2.
28-20-12 Peer Oil 4.
Munn Bros. et al 6.
Oklahoma Natural Gas 635.
2-22-10 Mutual Oil 4.
11-22-10 Gilliland Oil 3, 4.
8-23-10 Mid-Kansas Oil & Gas 1.
9-22-11 Owen-Osage Oil 268, 271.
3-23-11 Owen-Osage Oil 269.
7-23-11 Owen-Osage Oil 272.
21-20-10 Atkins et al 1.
23-21-10 Markham & Breene 2.
28-20-11 Sand Springs Home 4.
31-26-11 Sand Springs Home 5.
5-21-11 McKinney 1-A.
6-21-11 C. W. Titus 3, 4.
31-29-12 Jennings 1.
4-27-10 Owen-Osage Oil 270.
19-24-11 Owen-Osage 273.
34-25-11 Devonian Oil 7.
16-24- 8 Test Log Oil 3.
32-24- 8 Mutual Oil 20-B.
21-24- 9 Clark & Kruger 2.
32-24- 9 A. G. Oliphant 1.
3-25- 8 Seamens Oil 3.
27-25- 8 Atlantic Oil Producing 2.
28-25- 8 E. B. Lawson 4.
29-25- 8 The Texas Co. 3.
13-23- 8 Twin State Oil 5, 6.
Peters Oil 29.
20-23- 8 Marland Refining 3, 4.
29-23- 8 Red Bank Oil 3.

Marland Refining 1.
17-23- 9 White Oil 1.
28-23- 9 Tidal Osage Oil 1.
2-21- 5 Sand Springs Home 77.
20-28- 6 Phillips Pet. 1.
6-26- 6 Tidal Osage Oil 15.
19-27- 6 Phillips-Skelly 13.
31-25- 7 Vickers & Higgens 1.
33-28- 5 Prairie O l & Gas 1.
34-28- 5 Waite Phillips 1.
Carter Oil 1.
23-27- 5 Phillips-Skelly 4-A.
Skelly Oil 3, 5, 6, 7, 8.
Phillips Pet. 2, 12, 14, 15.
Gypsy Oil 10, 11.
26-27- 5 Phillips-Skelly 6, 7, 8, 9, 1, 2, 5, 9, 13, 14.
35-27- 5 Phillips Pet. 6, 7, 12.
Roxana Pet. 4.
1-17-15 Vann, Carmichael et al 1.
Shut Down
34-22-12 Andes Oil & Gas 1.
5-20-12 Barnsdall Oil 8.
26-23-10 Rex Pyramid 7.
34-23-10 Wa'te Phillips 1.
35-23-10 C. W. Titus 8.
19-22-11 Riverland & Carter Oil 4.
28-22-11 Branstetter 1.
3-23-11 Owen-Osage Oil 260.
17-23-11 Heinerman-Marshall 6.
8-20-10 Mooney et al 2.
23-21-10 Tidal Osage & Titus 1.
28-24- 8 Osage Oil & Ref. 1.
25-24- 9 Winona Oil 1.
4-25- 8 Zock Barnes 1.
17-25- 9 Petroleum Drilling 7.
30-22- 9 Zock Barnes 1.
3-26- 6 Kay County Gas 1.
6-26- 6 Tidal Osage Oil 16.
8-26- 6 Cosden Oil & Gas 8.
19-27- 6 Gypsy Oil 10, 13, 14, 7.
32-28- 5 Waite Phillips 1.
23-27- 5 Phillips-Skelly 3, 6, 7, 10, 11.
Skelly Oil 2, 4, 9, 10, 13, 14, 15, 16.
Phillips Pet. 1, 3, 5, 6, 7, 8, 9, 10, 11, 13, 16.
Gypsy Oil 1, 4, 5, 6, 8, 9, 12, 13, 14, 15, 16.
24-27- 5 Phillips-Skelly 9, 10, 11, 12, 14.
Gypsy Oil 1 5, 11 13 3 4 6, 6, 9, 10, 11, 12, 13, 14, 15, 16.
26-27- 5 Phillips-Skelly 3, 10, 11, 6, 10.
35-27- 5 Phillips Pet. 11.
Mid-Kansas Oil & Gas 9, 12, 13.
Rigs, 46; wells drilling, 165; total, 211.

TULSA COUNTY

Rigs
8-17-14 Sims, Hampton & Howe 1.
18-19-12 Woodward, Sand Springs Home 2.
1-18-12 Edwards, West et al 11.
7-16-12 Miller, Campbell et al 1.
28-16-12 Wills, Sheridan Oil 2.
22-20-10 Unallotted, Jones & Burton 1.
Wells Drilling
30-17-14 Depriest, E. C. McCullough et al 1.
1-1[illegible] Vann-Carmichael et al 1.
5-19-12 Grayson, Echo Oil 1.
6-19-12 Fee, S. S. Home 1, 2.
Bruner, Sand Springs Home 1.
2-17-12 Brown, Scotland Oil 6.
34-17-12 Lewis Tank Farm, Prairie Oil & Gas 3.
22-16-12 Wills, Sheridan Oil 5.
Wills, Waite Phillips 2.
23-16-12 Flynn, W. O. Dickenson 1-A.
24-16-12 Tiger, Oklahoma Natural Gas 7, 8.
4-19-10 Grayson, Hivick & O'Reilly 1.
10-19-10 Starr, C. W. Titus et al 1.
Lester, Mutual Oil 3.
Shut Down
29-19-14 McIntosh, Boyd et al 1.
33-19-14 McIntosh, Newbrough & Hazel 1.
Hook, Pennington 2.
4-17-14 Tucker, Wade et al 1.
9-17-14 Parco, Dillard et al 1.
36-17-14 Secrest, Valley Oil 1.
1-16-14 Perryman, Turman Oil 1.
6-19-12 Bruner, Sand Springs Home 2.
Bruner, Mutual Oil 1.
Bruner, Fisher Oil & Ref. 2.
Bruner, Thompson & Black 1.
8-19-12 Harrison, C. H. Terwilleger 2.
23-19-13 Landrum, Hancock et al 1.
19-17-13 Coolidge, Pawhuska Oil & Gas 2.
3-18-12 Vance, S. E. Vance 1-A.
13-18-12 Olin, Associated P. & R. 6.
Corbray, Smith et al 4.
33-18-13 Teague, Houston et al 2.
3-16-12 Whetstone, Pearson Oil & Gas 1-A.
34-16-12 Barnett, Southern States Oil 1.
15-19-10 Martin, Nelson Oil & Gas 1.
23-16-19 Jamie, Sinclair Oil & Gas 1, 2, 3.
Rigs, 6; wells drilling, 40; total, 46.

OKMULGEE COUNTY

Rigs
8-14-14 Harris, Okmulgee Oil Pro. 1.
14-15-13 Wilson, A. W. Cline et al 1.
21-13-12 Kinard, Salter et al 7.
22-13-12 McIntosh, Clark et al 8.
7-11-12 Hawkins, Moffett & French 2.
34-12-12 Holmes, Eagle Picher Oil 6.
Holmes, Steinmeyer 18.
25-12-13 Bird, Kingwood Oil 2.
19-15-11 Brandt, Indiahoma O. & R. 7.
10-15-11 Cooper, Beggs Oil & Gas 13.
11-15-11 Adams, Cosden Oil & Gas 3.
32-15-11 Gooden, Meisner 2.
27-13-11 Scott, McGuigan et al 1.
29-13-11 Hawkins, Kimbley Oil & Ref. 4.
Wells Drilling
7-14-14 Unallotted, C. W. Willmott 1.
15-14-14 Colbert, Smith & Kessler 2.
32-14-14 Rentie, W. A. Settle et al 3.
13-15-12 Minugh, Huckins & Wilson 1.
14-15-12 Shepherd, Frazier et al 1.
15-15-12 Shepherd, Holliday Oil 3.
18-15-12 Johnson, E. L. Robinson et al 2.
28-15-12 Gaither, R. B. Thompson et al 1.
36-15-12 Jones, Galor et al 1.
2-13-12 McGilbra, Acta Oil 2.
24-13-12 Hill, Roxaline Oil 5.
12-13-13 Gray, Cosden Oil & Gas 10.
26-13-13 Cumseh, Preston Oil 4.
19-14-13 Berryhill, Kessler 1.
36-11-12 King, Jess Rebold 1.
33-12-12 Webster, Ralco Oil 5.
5-12-13 Hodges, Chief Drilling 3.
18-12-13 Burgess, Smith & Jilson 1.
14-15-11 Richards, Waite Phillips 3.
Grayson, J. J. Shook et al 1.
15-15-11 Cousins, Waite Phillips 1.
14-13-11 Thompson, Wood Oil 1.
26-13-11 Murrell, E. L. Robinson et al 1.
31-13-11 Holaths, Denver P. & R. 7.
32-13-11 Thomas, Ohiokla Oil 1.
36-13-11 Turner, Gladys Belle et al 6.
30-16-13 Tiger, Enfisco Oil 6.
36-16-13 Ackley, O. L. Collins 1.
Shut Down
14-13-14 Scott, Granahan et al 3.
24-13-14 Thornberry, Iron Mountain 5.
28-13-15 Fulton, J. M. Bynum 1.
23-14-14 Corbray, Argue & Brockway 1.
32-14-14 Perryman, Dumot, Archer et al 2.
Hardridge, McFann & Nott 2.
36-14-14 Lewis, Enterprise Oil 3.
36-15-13 Sampson, Southwest Oil Fields 5.
8-13-12 Morton, Logan & Wallace 4.
9-13-12 Marshall, Crescent Oil 2.
31-13-12 Unallotted, Frank Havel et al 1.
16-14-12 Corbray, Knott & Potter 1.
8-11-12 Sumner, Moffett et al 2.
24-11-13 Wills, C. L. McMahon 1.
36-11-13 Thompson, Simplex Oil 1.
1-12-12 Monday, Parshall Oil 1.
6-12-12 Davis, L. F. McCrae 1.
27-12-12 Wolfe, Vanderwide et al 1.
3-15-11 Grayson, Enfisco Oil 1.
12-15-11 Stephens, Pollyanna Oil 6.
17-15-11 Carolina, Cole et al 1.
22-15-11 Richards, Lebein et al 7.
32-15-11 Hawkins, John Botts 3.
28-13-11 Richardson, Allison Oil 1.
30-13-11 Cross, Cosden Oil & Gas 5.
32-13-11 Thomas, Ohiokla Oil 2.
Rigs, 14; wells drilling, 54; total, 68.

OKFUSKEE, HUGHES, SEMINOLE AND McINTOSH COUNTIES

Rigs
22-11-11 Holmes, Draner & Jamison 6.
35-11-11 Smith, Atlantic Oil Producing 1.
1-12-11 Deer, Hart & O'Laughlin 2.
Thompson, Independent Oil & Gas 4.
10-12-11 Robinson, Henry Oil et al 1.
27-12-11 Holmes, Hartman et al 3.
29-10-11 Cobb, Fisher & Umbree 1.
4-13- 8 Saryokiche, Link Oil 2.
5-13- 8 Samuel, The Texas Co. 1.
27-11- 8 Sands, Burke-Gries 1.
5- 9- 9 Carter, Transcontinental Oil 1.
17- 9- 9 Smith, Gladys Belle Oil 1.
Brown, Transcontinental Oil 1.
18- 9- 9 Brown, Arkansas Fuel Oil 1.
10-10- 8 Little, Shaffer Oil & Refining 1.
15-10- 8 Bruner, Cromwell et al 2.
16-10- 8 Bruner, Amerada Pet. 1.
21-10- 8 Harjo, Tidal Osage Oil 1.
Wells Drilling
20-11-14 McIntosh, Wooster Oil 1.
28-10-12 Unallotted, Carter Oil 1.
15-11-11 Tucker, Draner & Edgar 1.
34-11-11 Barnett, Calvin et al 1.
Alexander, King Brothers 1.
Barnett, Oklianna Oil 3.
22-12-11 Barnett, Hartman et al 6.
Jacobs, Roderbush & Kiser 1.
36-12-11 Rentie, Aztec Oil 2.
6-10-10 Unallotted, Lebow 1.
3-10-11 Unallotted, W. L. Umburn 1.
30-11-10 Grayson, Shaffer Oil & Refining 1.
3-13- 8 Kinyer, Wilcox & Oswalt 1.
1-11- 8 Sands, Howarth et al 1.
26-12- 8 Beaver, Howarth Oil 1.
25-12- 9 Callahan, C. W. Wangerine 1.
7- 7-10 Barnett, Kingwood Oil 1.
18- 8-10 Irvine, Dixie Oil 2.
28- 9- 8 Davis, Waite Phillips et al 1.
3- 9- 9 Davis, Kingwood Oil 1.
4- 9- 9 Alexander, Panoose Oil 1.
8- 9- 9 Browning, Steinbar Oil 1.
9- 9- 9 Simon, Gilcrease Oil 1.
Hill, Papoose Oil 1.
15- 9- 9 Davis, Turman Oil 1.
16- 9- 9 Bruner, Gypsy Oil 1.
17- 9- 9 Bruner, Oklavania Oil 1.
18- 9- 9 Charles, W. Atkins 1.
20- 9- 9 Bruner, Gilcrease Oil 1.
Simon, Gilcrease Oil 1.
13-11-11 Smith, Sinclair Oil & Gas 3.
33- 8- 8 Foster, Sinclair Oil & Gas 1, 3.
29- 8- 8 Walker, Sinclair Oil & Gas 2.
21- 9- 9 Bruner, Prairie Oil & Gas 1.
15-10- 8 Bruner, Gypsy Oil 1.
Bruner, Wilcox Oil & Gas et al 1.
Bruner, Cosden Oil & Gas 1.
16-10- 8 Bruner, Ben Gessell et al 1.
22-10- 8 Harjo, Holm & Jarvis 1.
Baker, McMann Oil 1.
4- 7- 8 Long, Lewis Oil 1.
5- 7- 8 Foster, W. H. Thurbier 1.
19- 8- 8 Townsite, W. R. Ramsey 1.
21- 8- 8 Rowlegs, Magnolia Pet. 1.
28- 8- 8 Foster, Dixie Oil 3, 4.
Foster, Gypsy Oil 1.
32- 8- 8 Long, Dixie Oil 1-B, 4-A, 5-A.
Walker, Dixie Oil 1.
Long, Independent Oil & Gas 2.
Lens, Magnolia Pet. 1.
33- 8- 8 Sango, Atlantic et al 1.
Foster, Dixie Oil 1, 2, 3.
Long, Dixie Oil 1-B, 2-B.
Parker, Magnolia Pet. 2, 3.
Foster, Producers & Refiners 4, 7.
Long, Producers & Refiners 1.
Long, Dixie Oil 1-A.
34- 9- 6 Jones, H. H. Taylor 1.
13- 7- 7 Dean, W. R. Ramsey 1.
10- 8- 7 Davis, Ossenbeck et al 1.
34- 5- 6 Strenyer, Smith et al 1.
19- 5- 7 West, Howarth et al 1.
33- 6- 6 Cherry, Harvey & Maxwell 1.
14- 6- 7 Carolina, Link Oil 1.
20- 6- 7 Bell, McDougal et al 1.
Shut Down
2-12-16 Vornblood, Montague Oil 1.
20-12-14 Tucker, Casper et al 1.
30-12-14 Anderson, Alsen Drilling 2.
3-12-15 Bray, Beggs Oil & Gas 1.
29-12-15 McNally, Clifton & Terrell 1.
8- 9-12 Smith, Flesher Pet. 1.
4-11-11 Morrow, Anglo-Texas 1.
12-11-11 Fish, Wooster Oil 2.
13-11-11 Hen, Waite Phillips and Independent 3.
Jefferson, Gypsy Oil 5.
32-11-11 Holmes, Burke-Gries 1.
36-12-10 Brooks, Blakely et al 1.
3-12-11 Grayson, Parshall Oil 2.
27-12-11 Holmes, Hartman et al 2.
28-12-11 Robinson, Anglo-Texas 1.
32- 9-10 King, Vernon et al 2.
9- 9-11 Baker, Tidal Osage Oil 1.
9- 9-11 Bruner, Mid-Kansas Oil & Gas 2.
6-10-10 Unallotted, Prairie Oil & Gas 1.
4-13- 8 Saryokiche, Iron Mountain 1.
2-13- 9 Chessoe, Lippa & LaBosquet 1.
30-11- 8 Unallotted, Foster 1.
4- 5 11 Unallotted, E. J. Mathews 1.
35- 5-11 Unallotted, Kimbley et al 1.
13- 6-11 Unallotted, Middle States Oil 1.
Rigs, 18; wells drilling, 99; total, 117.

MUSKOGEE-WAGONER COUNTIES

Rigs
20-13-16 Willingham, Egold Oil 1.
2-15-14 Anderson, W. R. Sommerville 7.
18-15-14 Harrison, Vensel et al 7.
19-15-14 Hamery, Walter Hunkle 4.
5-15-15 Hawkins, Cook & George 3.
3-16-15 Unallotted, C. N. West 2.
Wells Drilling
5-15-14 Bruner, Murphy & Tilly 1.
6-15-15 Jefferson, Gilliland Oil 3.
Shut Down
6-13-16 Callahan, Jack McCutcheon 2.
36-13-17 Arnett, Douglas & Haller 1.
19-14-16 Beam, Vogler & Lightner 7.
35-14-16 Luster, J. A. DeWitte 1.
18-14-17 James, W. A. Peterson 5.
27-14-17 Dean, E. C. Foltz 1.
32-14-17 Buffington, F. C. Lantz 1.
4-15-15 McDaniels, Wm. Harsha 1.
5-15-15 Fawkins, Cook & George 2.
27-15-15 Charles, Turin Oil 4.
29-14-15 Carter, Bonnert et al 2.
32-14-15 Carter, Bady et al 2.
34-14-15 Durant, Henson et al 1.
Rigs, 6; wells drilling, 15; total 21.

CREEK COUNTY

Rigs
8-14-10 Tiger, Daniels & Jenkins 1.
33-17-11 Pickett, Allen & McGilpin 1-A.
10-16-10 Pepper, Devonian Oil 5.
32-16-10 Bemore, Phillips Pet. 3.
12-16-11 Gilgray, Shaffer Oil & Refining 1.
15-19- 9 Unallotted, Mattox et al 2.
7-17- 8 Island, Flesher Pet. 1.
23-17- 8 Johnson, Savoy Oil 1.
32-17- 8 Artusse, Fartain Brothers 1.
18-17- 9 Winn, Pusibar Pet. 1.
29-18- 9 Scales, Peters et al 2.
9-15- 8 Beaver, Skelly Oil 5.
30-15- 8 Benjamin, Lima Oil & Gas 1.
8-16- 9 McDermott, Carter Oil 2.
10-16- 9 Fields, Wolfe Oil 2.
16-16- 9 Barnes, Carter Oil 2.
McNac, Roxana Pet. 4.
20-16- 9 Barnett, Dickenson et al 1.
35-16- 9 Haines, U. S. Cities 2.
14-14- 8 Bearhead, Margay Oil 2.
24-14- 8 Doyle, Kaufman & Lewis 1.
26-14- 8 Johnson, C. G. Timmons 6.
26-19- 7 Bruner, Lyons Pet. 1.
Wells Drilling
29-15-10 McIntosh, Carter Oil & Davis 1.
34-15-10 Sewell, Cosden Oil & Gas 1.
31-14-10 Barnett, Independent Oil & Gas 1.
13-17-11 McIntosh, Albert Shelton 1-A.
5-18-11 Weaver, Veeler et al 1.
4-16-10 Tiger, Hartman et al 1.
11-19- 8 Bruner, Bartlett & Mann 2.
13-19- 8 Lowe, J. R. Grieves 1.
15-19- 9 Postoak, Shaffer Oil & Refining 4, 5.
Postoak, Howarth Oil & Gas 2.
Manley, Shaffer Oil & Refining 1.
4-17- 8 Unallotted, Turman Oil 1.
14-17- 8 Freeman, Transcontinental Oil 2.
23-17- 8 Walker, Duquesne Oil 2.
24-17- 8 Williams, Buvibar Pet. 1.
25-17- 8 Morrison, Roland Oil 1.
32-17- 8 Washington, Olean Pet. 3.
6-17- 9 Not Mapped, Malcona Pet. 1.
19-17- 9 Wright, Pure Oil 2.
Deer, Prairie Oil & Gas 1.
27-18- 8 Unallotted, Wolfe Oil 1.
17-18- 9 West, Jarvis & Holm 1.
2-15- 8 Alex, Roland Oil 4.
9-15- 8 Beaver, F. A. Chapman 1.
14-15- 8 Gooden, Damar Oil 1.
15-15- 8 Warnocke, Shaffer Oil & Ref. 2.
Watson, Cosden Oil & Gas 1.
30-15- 8 Phillips Pet. 1.
35-15- 8 Hill, C. G. Tibbons 1.
4-15- 9 Tiger, Phillips Pet. 4.
29-15- 9 Colbert, McCree Pet. 1.
21-16- 8 Major, Tidal Osage Oil 2.
23-16- 8 Deere, Lorraine Pet. 12.
28-16- 8 Scott, Roxana Pet. 1.
29-16- 8 Pixico, Atlantic Oil Producing 1.
21-16- 9 Greenwood, H. F. Wilcox Oil & Gas 2.
29-14- 8 Robinson, Phillips Pet. 1.
30-14- 8 Kirnal, Prairie Oil & Gas 4.
2-19- 7 Sarty, McCray et al 1.
22-18- 6 Lunday, Riverside Oil Refining 1.
30-18- 6 Hunter, Home Gas 1.
8-18- 7 Musselman, Magnolia Pet. 3.
9-18- 7 Thalaco, Ravstate Pet. 43.
36-18- 7 Jones, Magnolia Pet. 3.
36-23-4e Willard, Cosden Oil & Gas 1.
Shut Down
9-15-10 Gravron, Kawfield Oil 8.
20-15-10 Goodnow, Midwest & Gulf 2.
7-14-11 Jefferson, Stoffey Bros. 1.
18-18-11 Bruner, McLain et al 2-A.
32-18-11 Drew, Cross et al 3.
7-19- 8 Griffith, Malcona Pet. 1.
30-19- 9 Jefferson, Fapulpa Refining & Bailey 2, 3.
31-19-9 Gambler, Asa Bailey 1.
27-17- 8 Venci, Waite Phillips 1.
31-17- 9 Marshall, Prairie Oil & Gas 2.
32-17- 9 Tiger, Neilson et al 1.
29-18- 9 Scales, Peters et al 1.
15-15- 8 Warnocke, Cosden Oil & Gas 1.
21-15- 8 Marshall, C. G. Tibbons 1.
23-15- 8 Peters, Bu-Vi-Bar Pet. 1.
9-15- 9 Tiger, J. R. Bond 4.
16-16- 8 Meyers, Skelly Oil 2.
21-16- 8 H. C. Wilson 1.
22-16- 8 Knoll, Laurel Oil & Gas 4.
24-16- 8 Richards, Belmont Oil 2.
25-16- 8 Buckner, Malcona Pet. 1.
34-16- 8 Harjo, Wilcox Oil & Gas 8.
3-16- 9 Damar, W. L. Clark et al 1.
9-16- 9 Unallotted, H. H. Caruthers 1.
9-16- 9 Fee, T. B. Slick 9.
29-16- 9 Hamilton, Kirven et al 2, 4.
34-16- 9 Barnett, E. C. Clay et al 2.
36-16- 9 Charles, Jomac Oil 2.
9-14- 8 Ahleoush, Cohan et al 1.
27-14- 8 McIntosh, Billingslea et al 5.
35-14- 8 Beaver, Independent Oil & Gas 7.
5-23-5e Phillips, Mosiers et al 2.
7-23-5e Unallotted, Donahue et al 1.
30-14- 8 McGilbra, Sinclair Oil & Gas 1.
Rigs, 23; wells drilling, 82; total, 105.

PAWNEE COUNTY

Rigs
24-20- 8 First National Bank, S. W. Oil Fields 6.
4-20- 7 Unallotted, Vick Oil 1.
8-21- 6 Simmons, Wood & Farren 1.
Calclasier, Amerada Pet. 1.
17-20- 6 Trevesdale, Carter Oil 3.
22-20- 6 Smith, Westerly Oil 4.
33-23-3e Miller, Watchorn Oil & Gas 1.
Wells Drilling
25-20- 9 Lot 66, Mutual Oil 5.
27-20- 9 Unallotted, Holmes et al 1.
4-20- 7 Unallotted, Reese et al 1.
8-21- 6 Calclasier, Carter Oil 1.
18-21- 6 Dart, Haley et al 1.
4-19- 5 Unallotted, Gypsy Oil 1.
15-20- 6 Burton, Prairie Oil & Gas 5.
17-20- 6 Soring, Watchorn Oil & Gas 1.
21-20- 6 Lesher, Magnolia Pet. 4.
Lesher, Dempsey et al 1.
Embry, Josey Oil 4.
16-22-2e Miller, Miller-Wrichtsman 1.
9-22-2e Arkeketa, Magnolia Pet. 3.
32-23-3e Robedeaux, Magnolia Pet. 3.
33-23-3e Brown, Watchorn Oil & Gas 1.
Miller, Watchorn Oil & Gas 4, 5, 6, 8.
Shut Down
25-22- 6 Bell, Victor Oil 1.
35-22- 6 Unallotted, Burke-Gries 1.
26-20- 7 Alman, Fugate & Clifford 3.
8-21- 6 Calclasier, Dequesne Oil 1.
8-21- 7 Kinsley, R. B. Freeman 1.
21-21- 7 Hussey, Flight et al 1.
25-21- 7 Harringford, McNamee et al 3.
27-21- 7 Unallotted, Daniels et al 1.
17-20- 6 Adkinson, Davis et al 1.
Rigs, 7; wells drilling, 28; total, 35.

PAYNE COUNTY

Rigs
34-19- 4 Main, Magnolia Pet. 10.
Saunders, Twin State Oil 1.
Wells Drilling
34-19- 4 Main, Magnolia Pet. 9.
26-18- 5 Walker, Magnolia Pet. 2.
9-18- 3 Unallotted, Dan Bunnell, Jr. 1.
Shut Down
30-18- 5 Cochran, Cassidy et al 6.
Cochran, Amerada Pet. 2.
28-17- 3 Unallotted, Plateau Oil 1.
21-19-1w Unallotted, Ponca Oil & Gas 1.
Rigs, 2; wells drilling, 7; total, 9.

KAY COUNTY

Rigs
3-27- 5 The Texas Co. 3, 4, 5, 7, 8.
Carter Oil 2.
Cooper, Phillips Pet. 4, 8.
4-27- 5 Roxana Pet. 6.
Gypsy Oil 6, 7, 8.
9-27- 5 Phillips Pet. 11, 12, 15, 18.
Mid-Kansas Oil & Gas 5.
10-27- 5 Gypsy Oil 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.
Comar Oil 4, 5, 6.
Cosden Oil & Gas 2, 3, 5, 6, 10, 11, 12.
Phillips-Delmar 4, 5, 6, 7, 8, 9, 10, 11, 12.
Carter Oil 4, 5, 6.
Mid-Kansas Oil & Gas 13, 14, 15, 16.
16-27- 5 Phillips Pet. 3.
McCasey, Pure Oil 6.
6-26-2e Hadley, Alcorn Oil 1.
9-27-1w Geiger, Blackwell Oil & Gas 1.
34-25-1w Endicott, Pennok Oil 7-A.
35-25-1w Ogg, Comar Oil 8, 9.
36-25-1w Koppenbrink, Comar Oil 4.
15-27- 5 Sinclair Oil & Gas 13, 14.
9-27- 5 Sinclair Oil & Gas 3, 4, 5.
Wells Drilling
3-27- 5 The Texas Co. 2.
Carter Oil 1.
Cooper, Phillips Pet. 1.
4-27- 5 Roxana Pet. 2, 3, 4, 5.
George Bole 2, 3, 4.
Comar Oil 1.
Gypsy Oil 5.
9-27- 5 Phillips Pet. 2, 3, 10.
Prairie Oil & Gas 1, 2.
Mid-Kansas Oil & Gas 2, 4.
15-27- 5 Dye & Tomlinson 8.
Twin State Oil 6, 11, 12.
Comar Oil 4, 5, 7, 8.
Mid-Kansas Oil & Gas 5, 8, 9, 10.
16-27- 5 Skelly-Phillips 2, 3.
McCassey, Pure Oil 3.
22-27- 5 Gypsy Oil 2, 3, 5, 9, 10, 16.
Carter Oil 5.
14-26-2e Bell, Waite Phillips 1.
31-27-2e Garrett, Comar Oil 1.
14-26-1w McClaskey, Ostot Dev. 1.
8-27-1w Rolo-Ostot Dev. 2.
8-27-1w Jakley, Globe Refining 1.
9-27-1w Cumley, Blackwell Oil & Gas 1.
10-27-1w Jones, Prairie Oil & Gas 2.
Carmichael, Hess & Kinard 1.
15-27-1w Show, Ostot & Poling 1.
Johnson, Ostot & Poling 2.
16-27-1w Langbery, National Union Oil 2.
Slocum, Manahan et al 2.
32-27-1w Filedge, Amerada Pet. et al 1.
27-25-1w Knortman, The Texas Co. 1.
34-25-1w McKee, McCaskey & Wents 43.
Beverlin, Comar Oil 9-A, 22-A.
26-28-1w Armstrong, Springer Drilling 1.
29-28-3w Hoffman, Ossenbeck et al 1.
12-26-2w Hubbard, Alcorn Oil 1.
15-27- 5 Sinclair Oil & Gas 3, 5, 9, 10.
9-27- 5 Sinclair Oil & Gas 3, 4, 5.
Shut Down
3-27- 5 The Texas Co. 1.
4-27- 5 Sands, Gypsy Oil 1, 2, 3, 4.
9-27- 5 Phillips Pet. 5, 6, 7, 8, 9.
Mid-Kansas Oil & Gas 1, 3.
Phillips Pet. 2, 3.
10-27- 5 Gypsy Oil 1.
Comar Oil 1, 2.
Cosden Oil & Gas 1.
Phillips-Delmar Oil 1, 2, 3.
Carter Oil 1, 2, 3.
15-27- 5 Dye & Tomlinson 6, 7.
Twin State Oil 1, 2, 3, 4, 5, 8, 9, 10.
Comar Oil 2, 3, 6.
Mid-Kansas Oil & Gas 1, 3, 4, 6, 7, 11, 12.
16-27- 5 Skelly-Phillips Pet. 4.

Peppers, Gypsy Oil 2.
Phillips Pet. 1, 2.
McCassey, Pure Oil 2.
12-21- 1 Skelly-Phillips 2, 3, 6, 10, 3, 5, 6.
Gypsy Oil 4, 6, 7, 8.
Carter Oil 1, 2, 3, 4, 7, 8, 9, 10, 11, 13, 14, 15.
1-23-3e Card, Middle States Pet. 1.
12-23-3e Brown, Johnson & Scott 1.
11-23-3e Lowery, Oklahoma Northern 1.
11-23-1e Trenary, Grand Island Oil & Gas 1.
11-24-1e Payton, George Nehr 1.
11-26-1w Miles, Alcorn Oil 1.
11-27-1w Crouch, Blackwell Oil & Gas 1.
11-27-1e Kelfer, Producers & Refiners 1.
11-25-1w Butler, McMann Oil 4.
11-25-1w Frazier, Bailey-Thompson 1.
11-25-1w Russell, Marland-Cosden 3-A.
Wood, Marland-Cosden 4.
11-25-1w McKee, McCaskey & Wentz 22, 44.
Beverlin, Comar Oil 7.
11-25-1w Endicott, Comar Oil 4.
Cgg, Comar Oil 3, 11.
11-29-2w Elwell, Guyler & Daniels 1.
Rigs, 67; wells drilling, 159; total, 226.

GARFIELD-NOBLE COUNTIES

Rigs

1-24-1w Gaume, Comar Oil 8-C, 9-A, 11-C, 12-A.
Blubaugh, Comar Oil 15-A, C-3A, C-4A.
1-24-1w Ruzek, Comar Oil 13-B, 14-B.
1-24-1w School Land, Marland-Cosden 9.
1-23-1w Cooper, Failor et al 1.
1-23-1w Burnside, Jankowsky et al 1.
1-21-1w Kenter, Chaffee et al 1.
1-21-1w Boepple, Boepple et al 2.

Wells Drilling

11-25-2e Four Eyes, Marland Refining 2.
11-25-2e 101 Ranch, Marland Refining 1.
11-21-2e Christy, Colorado Oil & Gas 1.
1-24-1w Clark, Gypsy Oil 59, 60, 62, 68, 70, 71, 74.
Gaume, Comar Oil 8-B, 9-B, 11-B, 16-A.
Blubaugh, Comar Oil 8-B, 10, 15, 22, 23-A, 24-A, C-5A, C-9.
1-24-1w Carmichael, Comar Oil 3-B.
Ruzek, Comar Oil 13-A.
11-24-1w Murray, Southwestern Pet. 25.
11-24-1w Rence, Healdton Oil & Gas 5-B, 11-A, 13-A, 14, 14-A.
Oliver, Comar Oil 1-A.
11-A, 13-A, 14, 14-A.
McCutcheon, Comar Oil 1.
11-24-1w See, Comar Oil 15.
11-24-1w School Land, Marland-Cosden 1, 8.
11-24-1w Road, Eureka Oil 1.
11-23-1w Forman, Walters Oil & Gas 1.
11-23-1w Ruhr, Walters Oil & Gas 1.
11-21-1w Boyce, Perry Service 1.
4-26-2w Bollinger, Smith Claire Drilling 1
11-25-2w Chambers, Besdor Oil 1.
12-25-2w Simmons, W. E. Brown 1.
11-23-2w Collins, Maranhan et al 1.
1-22-4w Seaman, Hopper et al 2.
11-22-4w Cruce, Hollingworth et al 1.
11-26-1w Rhea, Summers Oil & Gas 1.
1-26-4w Senrand, Jens-Marie Oil 1.

Shut Down

11-24-2e Kemple, Ossenbeck et al 1.
11-24-2e Leclair, Ossenbeck et al 1.
1-26-2e Conley, Colorado Oil & Gas 1.
11-21-2e Sayre, Ossenbeck et al 1.
1-24-1w Clark, Gypsy Oil 61, 69, 72, 73.
Gaume, Comar Oil 10-B, 11-A, 12-B, 13-A, 14, 14-A, 15.
Blubaugh, Comar Oil 12-B, 17, 17-A, 22-A, 23, C-1B, C-7, C-7A, C-8, C-8A.
1-24-1w Ruzek, Comar Oil 7-B, 18-B, 22.
11-24-1w Novotony, Prairie Oil & Gas 5.
11-24-1w See, Comar Oil 7-A.
11-26-1e Boyle, Nelson & Hayden 1.
11-21-1w McNeely, Snowden & McSweeney 1.
11-25-2e Davis, Emery & Leebright 1.
1-22-2w White, Frank Kelly 1.
11-22-3w Baldwin, Champlin et al 1.
11-22-4w Hotson, Empire Gas & Fuel 19.
1-25-4w Wengert, Martin et al 1.
11-25-4w Tammell, Summers Oil & Gas 1.
11-25-4w McCullough, Danciger Oil 1.
11-21-4w Miller, Rosenthal et al 1.
11-21-4w Champ, Summers Oil & Gas 1.
1-21-7w Montgomery, Margay Oil 1.
1-23-4w Hess, Weir-Wood Oil 1.
11-22-3w Dively, Bullock et al 1.
Rigs, 14; wells drilling, 91; total, 105.

CARTER COUNTY

Rigs

11-24-1e Bishop, Ed Felmlee 1.
11-24-2w Dings, Skelly Oil 3.
11-24-2w Bennett, Magnolia Pet. 4.
11-24-2w Davis, Joe Lathrop 1.
11-24-2w Adams, Cameron Refining 2, 3.
11-24-2w Adams, Neustadt 1.
1-24-2w Fee, Wirt Franklin 1.
1-24-2w Palmer, Patsy Oil 10.
11-24-2w Noble, Carter Oil 43.
Ward, Noble Oil & Gas 22, 21.

Wells Drilling

11-24-1e Baptiste, Amerada Pet. 19, 2.
11-24-1e Butler, Amerada Pet. 1.
11-24-2w Hardin, Magnolia Pet. 1.
11-24-2w Ratliff, Humble Oil & Refining 1.
11-24-2w Howard, Humble Oil & Refining 1.
Miller, Simpson-Fell 1.
11-24-2w Harris, Westheimer et al 1.
11-24-2w Sparks, Cameron Refining 5.
Sparks, Schermerhorn 5, 8.
Dings, Skelly Oil 2.
Sparks, Humble Oil & Refining 1.
Carr, Magnolia Pet. 1.
Sparks, Cotton Belt Pet. 3.
Ellis, Cotton Belt Pet. 3.
Brooks, Wirt Franklin 4.
11-24-2w Holmes, Kirk Oil & Gas 10.
Dings, Merrick et al 4.
Barrow, Healdton Oil & Gas 4.
Palmer, Patsy Oil 8, 9.
Bennett, Magnolia Pet. 6, 10.
Bennett, Merrick et al 3, 10.
11-24-2w Meyers, Healdton Oil & Gas 1.
Palmer, Schermerhorn 3.
Rogers, Magnolia Pet. 1.
11-24-2w Jenkins, Humble Oil & Refining 1.
1-24-2w Lyles, Barber et al 1.
11-24-2w Williams, Magnolia Pet. 2, 4.
Holden, Wirt Franklin 2.
Adams, Cameron Refining 1.
Abernathy, Schermerhorn 4.
Adams, Humble Oil & Refining 1.
25-2s-2w Jefferson, Galt-Fitzgerald 1.
Tucker, Magnolia Pet. 3, 5, 6, 7.
Stanton, Atlantic Oil Producing 1.
Jefferson, Twin State Oil 1, 2, 3, 4.
Phillips, Atlantic Oil Producing 1.
Jefferson, Atlantic Oil Producing 1.
Jefferson, Wirt Franklin 3, 4, 5.
Jefferson, Amster Oil 3.
Hinkle, Amster Oil 2, 3.
Laymen, Magnolia Pet. 7.
25-2s-3w Taylor, Magnolia Pet. 4.
Holmes, Schermerhorn 2-B.
26-2s-3w Swartz, Magnolia Pet. 2.
27-2s-3w McClure, Page Oil 4.
35-2s-3w Brooks, Rockland Oil 6. 9, 10.
5-3s-2w Cruse, Schermerhorn 1.
Cobb, Atlantic Oil Producing 2.
Poland, Southerland Oil 3.
Palmer, Schermerhorn 2.
Cobb, Merrick et al 3.
6-3s-2w Palmer, Patsy Oil 1.
9-4s-2w Lowery, Sure Oil 2.
Walker, Sure Oil 11.
10-4s-2w Rexroat, Cotton Belt Pet. 4-C.
15-4s-2w Woodruff, Magnolia Pet. 26-A.
Rexroat, Cotton Belt Pet. 10.
16-4s-2w Ward, Southerland Oil 7.
Gazaway, Humble Oil & Ref. 9.
21-4s-2w Noble, Carter Oil 39, 40.
Ward, Carter Oil 20.
Noble, Fitzgerald 7.
22-4s-2w Carr, Magnolia Pet. 10.
4-4s-3w Lowery, Pure Oil 3.
9-4s-3w Apple-Franklin, Lawrence Gas 27.

Shut Down

20-5s-1e Baptiste, Amerada Pet. 10, 18.
30-2s-2w Sparks, Cotton Belt Pet. 5.
31-2s-2w Fowler, Merrick et al 1.
Meyers, Healdton Oil & Gas 2.
Sheppard, Abe Kaufman 1.
13-2s-3w Pierce, Pringle et al 1.
14-2s-3w Lyles, Humble Oil & Refining 1.
22-2s-3w Carpenter, Humble Oil & Ref. 2.
24-2s-3w Williams, Magnolia Pet. 3.
25-2s-3w Laymen, Magnolia Pet. 5, 6.
27-2s-3w Fee, C. R. Smith 5.
8-3s-2w Harrison, Noble Oil & Gas 1.
9-4s-2w Walker, Humble Oil & Ref. 14.
15-4s-2w Woodruff, Carter Oil 9, 33.
Martin, Sure Oil 7.
16-4s-2w Westheimer, Amster Oil 9.
Ward, Carter Oil 19.
21-4s-2w Noble, Carter Oil 41, 42.
Noble, Skelly Oil 10.
22-4s-2w Dillard, Skelly Oil 15-A.
Dillard, Humble Oil & Ref. 8, 9.
Carr, Magnolia Pet. 11, 12.
11-4s-3w Davis, Holliday Oil 1.
13-5s-3w Beal, Wickenhiser & Rose 1.
27-3s-2e Brown, Home Oil 1.
Rigs, 12; wells drilling, 113; total, 125.

STEPHENS AND COTTON COUNTIES

Rigs

23-1n-9w Browning, Walters et al 1.
33-2n-9w Vanhouser, Samuels et al 1.
33-1s-8w Ramsey, Magnolia Pet. 16.

Wells Drilling

3-1n-4w Graham, T. & P. Coal & Oil 1.
28-3s-4w Sullivan, Cameron-Galt 1.
25-1n-6w Barnes, Magnolia Pet. 1.
2-2s-6w Saunders, Magnolia Pet. 1.
17-2s-6w McBee, J. C. Cook Oil & Gas 1.
4-3s-6w Peck, Magnolia Pet. 1.
22-3s-6w Fillmore, Gant et al 1.
30-1n-8w Maxey, Gypsy Oil 2.
23-1n-9w Fleming, Preddy et al 1.
Bolton, McMahon 3.
5-1s-8w Umstedt, Wm. Gant et al 3.
18-1s-8w Johnson, Calhoma Oil 4.
Prentice, Lone Star Gas 4.
Bartley, Magnolia Pet. 7.
20-1s-8w Bartley, Magnolia Pet. 8.
33-1s-8w Surber, McMann Oil 15.

Shut Down

14-1n-9w Atkins, Walton et al 2.
Rigs, 3; wells drilling, 17; total, 20.

MISCELLANEOUS

Rigs

Alfalfa County—
15-24-9w Quinn, Haley, Garber & Pulse 1.
19- 8-21w VanVector, Kadane et al 1.
15- 9-23w Goldsmith, Menzie et al 1.
32- 9-23w Unknown, Foster & Santrock 1.

Caddo County—
6-10-8w Ballard, Bowles & White 1.
11- 5-9w McKenna, Lowhead et al 2.

Coal County—
1- 1-11 Nichols, G. E. Vaughn 1.
18-2n- 9 Hicks, Bassie Oil 1.

Comanche County—
33- 2-9w School Land, A. G. Samuels 1.

Grady County—
6-10-8w Ballard, Bowles & White 1.
27- 2-5w Vermillion, Critchlow et al 1-A.
28- 3-5w Pearcy, Magnolia Pet. 1.

Lincoln County—
6-15- 6 Earp, Independent O. & G. 1.
22-15-2e Jones, Malcona Pet. 1.
1-14-6e Lewis, Amerada Pet. 1.
Zoller, Roxana Pet. 3.
Zoller, Roxana Pet. 4.
11-14- 6 Unknown, The Texas Co. 1.
Jackson, Roxana Pet. 2.
12-14- 6 Unknown, J. A. Hull Oil 2, 3, 4, 5.

Logan County—
28-15-1w Ganough, Lambert et al 1.
33-18-2w Guier, Pioneer Pet. 1.

Pontotoc County—
34- 3-4e Colbert, Harvey 1.
28- 4- 7 Potter, Hughes et al 1.

Roger Mills County—
10-16-21w Scaba, Kellogg et al 1.
33-13-21w Fields, Texas Oil Dev. 1.
32-12-26w Unknown, Martin & Rogers 1.

Texas County—
4- 1-12 Allison, Home Dev. Co. 2.

Washita County—
9- 8-15w Prettyarass, McCoy et al 1.

Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)

Alfalfa County—
21-27-10w Watts, McGinnis & Ward et al 1*.
23-24-11w Turnbull, Armstrong et al 1*.

Beaver County—
33- 5-28e Dewey, Gate Valley Oil 1*.
6- 1-20e James, Empire 1*.

Beckham County—
34-10-24w Green, Boileau et al 1*.
15-10-22w Wilkerson, Phillips et al 1*.
35- 9-24w Little, Grimes Bros. 1.
15- 9-23w Goldsmith, Hivick & Stone 1*.
Goldsmith, Clark & Tipton 1*.
Goldsmith, Sayre O. & G. 1*.
Buckowski, Emerald Oil 1.
Montgomery, Magnolia Pet. 1*.
18- 9-22w Seidel, Christmas et al 1*.
35- 9-23w Jordan, Beckham Oil Co. 1*.
32- 9-22w Dalton, Simpson 1*.
35-10-23w Unknown, Simpson et al 1*.
35- 9-25w Gibson, Grimes et al 1*.
16- 9-23w Walker, Moffett & Sandhill 1*.
21- 9-22w Roberts, Ike Williams 1*.
21- 9-23w Ensey, Coogan & Wallace 1.
20- 9-23w Harrison, Dalton & Cravey 1.
31- 9-23w Windle, Gypsy Oil 1.
31-9-23w Windle, Carter Oil 2.
32- 9-23w Jackson, Simpson 1*.
26- 9-23w Sheets, Sayre O. & G. 1*.
32- 9-23w Knight, Simpson et al 1.
33- 9-23w Martin, Foster Oil 1*.
8- 8-26w Unknown, Buffalo Oil 1*.
4- 8-22w Ross, Turman Oil 1.
36- 9-24w Ezell, Magnolia Pet. 1.
10- 8-21w Kelly, Bunell 1.
6- 9-24w Burkhalter, Pringle et al 1*.
23- 9-23w Patterson, Heydrick 1.
14- 9-23w Ingram, The Texas Co. 1.

Blaine County—
7-18-10w Cronister, Byers et al 1*.
21-15-10w Erlenmeier, Okoma Oil 1*.

Caddo County—
3- 5- 9w Perry, Magnolia Pet. 2.
13- 8-10w Bowling, Cook O. & G. 1*.
26- 6-10w Garner, Scheets & Schinn 1*.
11- 5- 9w Blue, English Drg. 2.
12- 5- 9w Wagner, Flora Okla 1*.
8-11-12w West, Birmingham & Kelsey 1.

Canadian County—
34-13-9w Dawson, Ponca O. & G. 1*.

Cherokee County—
23-18-19 McKay, Great Western Dev. 1*.
23-19-21 Unknown, Adkinson et al 1*.
20-17-22 Benge, Beeler et al 1.
6-16-22 Unknown, Corridan et al 1*.
33-19-23 Unknown, Gayhoma O. & G. 1*.

Cimarron County—
22- 5-9e Martin, Campbell Riley et al 1*.

Cleveland County—
21-10-4w Rowland, Garr Oil 1*.

Coal County—
24-1n-8e Jefferson, McPherson et al 1*.
7-2n-8 Spears, Mecca Oil 1*.
34-2n-9 Park, Bearman et al 1*.
16- 2-10 Downard, Vaughn et al 1.

Comanche County—
14-1n- 9w Adkins, Waldman & Shrann 1*.
Adkins, Glenhoma Pet. 1*.
23- 2-10w Cox, Cherry, et al 1*.

Custer County—
1-15-15w Rough, Parker O. & G. 1*.
26-15-18w Hatcher, Price & Pringley 1*.
1-14-14w Boone, Guller & Ossenbeck 1*.
23-13-14w Fry, Pauline Oil 1*.
15-15-20w Unknown, Twin Hill Oil 1.

Dewey County—
22-16-18w Elders, Morton et al 1*.

Garvin County—
20- 4- 4w McKinnon, Ethel Oil 1*.
3-1n- 4w Wade, Tex. & Pac. C. & O. 1*.
2-4 - 3w Bell, Donaldson 1*.
8-1 - 3w Cosden, T. P. C. & O. 3.
3-1 - 2w Pipejoy, Kennedy et al 1*.
16- 1- 2 Hohanna, Cornhuskers Oil 1*.
35-4 - 1e Hines, Owl O. & G. 1*.
30-4 - 2w Mays, Gypsy Oil 1.
8-1n- 3w Derdyn, Magnolia Pet. 1.
18-1n- 3w Derdyn, Magnolia Pet. 1*.
36-3n- 3w Sutton, Rinehart et al 1-A.
10-3n- 3e Huttall, Heath & Bowman 1*.
27-2n- 1e Forman, Garland 1*.
25-2n- 2e Murray, Black Pet. 1*.
10-1n- 3w Gibson, Magnolia Pet. 6.
11-1n- 3w Harkreder, Ship et al 3*.
31-1n- 2w Prince, Harver Bros. 1*.
18-1n- 1e Richardson, Bidner et al 1.

Grady County—
11- 4- 8w Williams, Magnolia Pet. 1.
22- 4- 8w Cox, Eller et al 1*.
19- 6- 5w Carson, Langston et al 1*.
11- 6- 8w Holloway, Nichols Drg. 1*.
23- 5- 8w Sanford, American Drg. 1*.
22- 5- 7w McFarland, Badget, Jones & Hughes 1.
17- 5- 7w Nell, Arrasmith et al 1*.
17- 5- 7w McClelland, Arrasmith et al 1.
10- 9- 6wsWilliams, United American 1.
14- 4- 8w Pendley, Magnolia Pet. 2.

Grant County—
27-27- 3w Lane, Western States 1.
3-26- 6w McKenna, Wrightsman 1*.
20-26- 4w Edwards, Emery & Leright 1.
22-27- 3w Stewart, Western States 4.
26-27- 3w Snouffler, Associated P. & R. 3*.
22-25- 4w Volmer, Myers O. & G. 1.
19-25- 5w Reynolds, Hutchinson et al 1.
23-29- 3w Hoffman, Ossie Oil 1.
14-27- 3w Howell, Western States 1.
8-27- 8w Moon, Midwest & Gulf 1*.
8-26- 5w Bonham, Jarvis et al 1.
11-26- 5w Bonham, Broadhurst & Foster 1.
11-25- 7w Kuykendall, Walters O. & G. 1.
14-25- 5w Midgley, Myers O. & G. 1*.

Greer County—
23- 7-23w D'Armond, Western Nat. Gas 1*.
3- 7-22w Johnson, Neal et al 1*.
26- 7-22w Bowman, White & DeBolt 1.

Harmon County—
21- 2-26w Unknown, J. C. Keys 1*.

Jackson County—
20-3n-20w Baker, Douglas Oil 1*.
36-2n-23w Unknown, Ship et al 1*.

Kingfisher County—
30-16- 9w Burton, Pansy Oil 1*.
25-17- 5w Smith, Bryscy & Hines 1*.

Kiowa County—
33- 6-20w State, Kiowa Pet. 1*.
34- 7-16w Indian Land, Conner et al 2*.

Lincoln County—
1-14- 6 Zoller, Roxana Pet. 1, 2.
11-14- 6 Jackson, Roxana & Wolverine 1.
12-14- 6 Strip, J. A. Hull Oil 1.
Townsite, Union Pet. 1.
28-17- 3 Unknown, Plateau Oil 1*.
2-13- 6 Unallotted, H. F. Wilcox 1.
21-16- 2 Hazlett, Pryor & Dellaire 1.
10-16- 5 Wyman, Mascho et al 1*.
16-16- 4 School Land, Sartain Bros. 1.
2-16- 4 Unknown, J. A. Dingwall 1.
17-15- 3 Powell, Mutual Oil 1*.
15-15- 6 Lovett, Blankenship et al 1*.
21-14- 6 Scheff, Stroud O. & G. 1*.
7-14- 4 Norton, Heinz & Green 1*.
7-13- 3 Ewing, Douglas Oil 1.
14-13- 6 Heinzig, Prod. & Ref. 1*.
18-13- 5 Keller, Sun Ray Oil 1.
18-14- 5 Willison, Pure & Magnolia 1.
2-14- 5 Ely, Flynn & Morgan 1.

Logan County—
36-15- 2w Baker, Oklahoma Drg. 1*.
32-19- 3w Newman, Burford & Brim 1.
8-18- 2w Wyatt, Mulhall Oil 1.
28-18- 4w Moore, Franklin Oil 1*.

Oklahoma County—
29-13- 1e Lovett, Charles Shaw 1*.
8-12- 1w Hendricks, W. R. Ramsey 1.
36-11- 3w Unknown, McBith 1*.

Pittsburg County—
29- 6-13 Townsend, Richards 1*.
22- 3-13 Fee, Ward Smith 1*.
28- 8-15 Cheadle, Eugene Oil 1*.

Pontotoc County—
28- 3- 4 Lollis, Clark et al 1.
19- 5- 7e Edwards, Howarth O. & G. 1.
32- 5- 5e Brown, Carter et al 2*.
5- 4- 5e Starrett, Craig et al 1*.
16- 4- 6e McClure, American O. & R. 3.
34- 4- 6e Perry, Lancaster & Smith 1*.
34- 5- 6e Stringer, Bowles & Smith 1*.
31- 5- 5e Lewis, LaSalle et al 1*.

Pottawatomie County—
19- 7- 4 Neglinguet, Pierce & McMan 1*.
4- 5- 5e McFarland, Riverland Oil 1.
9- 5- 3 Ball, Day Oil 1.
13-11- 3 Unknown, Blaumer et al 1.
10- 6- 2 McGee, Davy et al 1*.
18- 7- 5 Vinson, Magnolia Pet. 1.
13-10- 2 Howell, Ossie Oil 1.
25-10- 4 Brooks, Noco Pet. 1*.

Pushmataha County—
33-2n-19e Peachwood, Anchor Oil 1*.
31-3s-15e McGee, George et al 1*.

Roger Mills County—
1-16-21w Unknown, Mutual Oil 1.
9-16-21w Unknown, Roxana Pet. 1.
28-14-23w Lindell, Porter Lease Synd. 1*.
3-13-26w Baker, Concord Oil 1*.
32-16-22w Unknown, Colorado Oil 1.
15-15-26w McClure, Thomas & Fide 1.

Sequoyah County—
1-11-21 Wilson, Mathes Pet. 1*.
31-12-23 Sanders, J. C. King et al 1*.

Texas County—
6-1n-17e Wood Ranch, Beaver Oil 1*.

Washita County—
23- 9-17w Unknown, Hartman et al 1*.
29- 8-16w Wilkinson, Enid Garber Oil 1.

Woodward County—
34-20-20w Unknown, Beard et al 1*.

Woods County—
19-24-14w Whitney, McCray et al 1*.

SOUTHERN OKLAHOMA

Rigs

Bryan County—
11-6s- 9e Combs, Lyons Pet. 1.

Johnston County—
29-4s- 5e Smith, Mitchell et al 1.

Jefferson County—
25-6s- 6w Spring, Clark Cowden 2.

McCurtain County—
35-8s-23e Brown, Noco Pet. 1.

Murray County—
13-1s- 3w Lawrence, Stauffer et al 1.

Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)

Atoka County—
7-2s-9e Wyand, McPherson et al 1.
28-2s- 9e Underwood, Wapanucka Dev. 1*.
17-4s-11e Dabney, Hauser et al 1.
1-2s- 9e Kemp, Florence Oil 2*.

Bryan County—
32-7s- 8e Ramsey, Barlieu 1*.
34-6s- 7e Starks, Patterson & Hoffman 1.

Choctaw County—
2-5s-15e Goekel, Smith et al 1*.

Jefferson County—
16-6s- 7w Jackson, Humble O. & R. 1.
36-5s- 8w Unknown, J. C. Cook 1.
31-4s- 8w Anderson, Shawver & Sutter 1*.
28-3s- 4w Sullivan, Galt et al 1.
10-7s- 6w Wray, Lung et al 1.
13-7s- 6w Reed, Landis et al 1*.
33-7s- 6w Stanfield, Elzie et al 1*.
22-3s- 6w Edwards, Gant et al 1.
23-6s- 5w Sealey, J. F. Drake et al 1*.

Johnston County—
7-5s- 8e Wilson, Tucker et al 1*.
9-4s- 4e Trotter, Root et al 1.

Love County—
9-7s- 1w Gray, Davenport et al 1*.
11-7s- 2e Wilson, Drillers Synd. 1*.
29-6s- 3e Starrett, Northwestern Oil 1*.
27-6s- 2e Draughn, Union Dev. 2*.

Marshall County—
36-7s- 5e Everett, Magnolia Pet. 1.
14-7s- 7e Love, H. C. Haley 1*.
18-5s- 5e Sacra, Layne-Watson 1*.
27-5s- 4e Chafney, Deck et al 1*.
18-6s- 7e Burney, Alexander & Ellis 1*.
1-6s- 6e Sutleffe, Moore 1*.
14-6s- 6e Simmons, Winters et al 1*.
22-6s- 4e Bowman, Humble O. & R. 1.
36-5s- 6e Holden, United 8 Oil 1*.

McCurtain County—
14-9s-25e Harris, Bellworth O. & G. 1*.
15-8s-26e Wilson, Red River Pet 1*.

Murray County—
11-1s- 1e Rowe, Beard & Miller 1*.

Tillman County—
6-5s-15w Hanneville, Fidelity Oil 1*.
23-2s-17w Foster, Luffborough 1*.
28-35-14w Lawrence, Carter et al 2*.
7-2s-18w Duncan, Battes et al 2*.
10-4s-18w Couch, Spears et al 1*.
Rigs, 37; wells drilling, 216; total, 252.

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	3	10	2	0
Montgomery-Wilson-Nesho-Anderson	0	0	0	0
Miami-Franklin-Anderson	0	0	0	0
Greenwood-Woodson	16	725	7	1
Marion	2	0	2	0
Chautauqua-Elk	7	70	3	3
Miscellaneous	9	240	3	3
Total January	37	1,045	17	7
Total December	32	745	16	6
Difference	5	300	1	1

Summary of New Operations

County—	Rigs	Drg.	Ttl.
Butler	2	15	17
Montgomery-Wilson-Neosho-Allen	0	1	1
Miami-Franklin-Anderson	0	0	0
Greenwood-Woodson	38	45	83
Marion	8	5	13
Chautauqua-Elk	3	5	8
Miscellaneous	15	63	78
Total January	66	134	200
Total December	46	134	180
Difference	20	0	20

Butler County

10-27- 2 Long, Faulders & Merriam 1.. dry
33-28- 5 Craig, S. S. & S. Oil 4 10
2-25- 8 Clark, Harwood & Winters 1 dry

Wells completed	2
Production	10
Dry	2
Gas	0

GREENWOOD-WOODSON COUNTIES

31-22-10 Mathers, D. A. Weiss et al 2 .. 40
13-23-10 Edwards, White Eagle Oil & Ref. 1 275
22-23-10 Tucker, Mission Oil 2 ..... dry
27-23-10 Thrall, Mission Oil 1-B 35
9-26- 3 Blankenship, Cressler Oil 4 .. dry
8-22-12 Pedroja, Eugenia Oil 1 ..... dry
15-24-12 Fleming, Lauck et al 1 30
31-22-10 Barnard, Rogers et al 2 35
14-24- 9 Agard, Basom et al 1 250
29-26- 9 Witty, Magnolia Pet. 1..... gas
31-23-13 Jones, R. G. Gillespie 7 20
14-24- 9 Bratton, Bitler & McGinnis 1 40
27-22-11 Wicks, National Refining 7.. dry
25-27-10 Hanson, Jess Willard et al 1 abd
7-27-11 Grady, Willard et al 3.... abd
2-25- 8 Clark, Harwood & Winters.... dry

Wells completed	16
Production	725
Dry	7
Gas	1
Gas production	5,000,000

MARION COUNTY

2-20-3e Anderson, Ben Lampl et al 1 dry
20-21-4e Reamy, National Refining 12.. abd

Wells completed	2
Production	0
Dry	2
Gas	0
Gas production	0

CHAUTAUQUA-ELK COUNTIES

8-31-11e Osborn, Halstead Oil & Gas 1 dry
27-29- 9 Harris, Phillips et al 2.....abd
34-29- 9 Harron, Dedrick et al 1 ..... gas
4-30- 9 Denton, Denton et al 6 .... gas
12-29- 8 Porter, Roth-Burt Oil 3..... 70
6-29- 9 Barns, Junker et al ..... dry
28-29- 9 Wheeler, Ohio Fuel Oil 1 .... gas

Wells completed	7
Production	70
Dry	3
Gas	3
Gas production	26,000,000

MISCELLANEOUS

Chase County—
24-22- 9 Browning, Sinclair Oil & Gas 1 abd
Cowley County—
6-32- 5 Hilbert, Twin State Oil 1 .... gas
5-31- 6 Eastman, Wilson & Martin 1 gas
7-31- 6 Eastman, C. W. Titus 1 ..... gas
Elrod, Milligan & Hayhurst 2 20
11-30- 4 Joslyn, Gypsy Oil 2 20
Harvey County—
4-23- 2 Conway, Mason & Ralston 1.. 200
Morris County—
17-17-9e Chase, A. J. Fisher et al 1 .. dry
Sedgwick County—
26-26-1w Alex, Royer & Reagan 1..... dry

Wells completed	9
Production	240
Dry	3
Gas	3
Gas production	8,000,000

BUTLER COUNTY
Rigs

32-26- 6 Shriver, Foraker 1.
31-29- 6 Brown, Lewis Oil 23.
Wells Drilling
16-23- 6 Hoe, Ramsey Pet. 1.
7-26- 5 Opperman, Connell Pet. 13.
36-27- 5 Yates, Yates Oil & Gas 5.
Shut Down
26-23- 7 Sturgeon, A. W. Clark et al 1.
18-27- 7 Eckel, Moulter & Ray 1.
33-27- 7 Cleary, Baker et al 1.
22-28- 6 Petit, John Sherp 1.
30-28- 6 Holland, Newman et al 1.
17-28- 7 Everton, Dutton & Morgan 1.
23-28- 7 Brewer, Rich et al 2.
1-29- 6 Baker, Tobin et al 1.
21-29- 6 Baker, Tobin et al 1.
5-29- 7 Buzzard, Tobin et al 1.
2-28- 5 Weaver, Schroeder et al 1.
23-28- 5 Burch, Bellfort et al 1.
Rigs, 2; wells drilling, 15; total, 17.

GREENWOOD AND WOODSON COUNTIES
Rigs

7-23-15 Barngrove, Pratt Oil 1.
34-22-13 Eslinger, Theta Oil 8.
20-23-13 Griblin, R. G. Gillespie 7.
21-23-13 Jones, R. G. Gillespie 8.
Griblin, Cosden O. & G. 10.
23-23-13 Hesler, Dresser Oil 7.
34-21-10 McCray, A. M. Buck et al 1.
17-22-10 Browning, D. M. Rhodes & Co. 3.
31-22-10 Barnard, Rogers et al 3.
28-22-11 Clark, Gray et al 5.
13-23-10 Edwards, White Eagle Oil & Ref. 2, 3.
Platt, Empire G. & F. 6, 7.
Edwards, Phillips Pet. 6.
24-23-10 Burkett, The Texas Co. 1.
29-23-10 Thrall, Mission O. & G. 16, 27.
Thrall, Empire G. & F. 4.
Thrall, Roth & Co. et al 2.
31-23-10 Thrall, Mission Oil 22, 23, 24, 25, 26.
McKee, Phillips Pet. 3, 46.
8-23-11 Edwards, Fisher et al 1.
18-24-10 Smith, Amerada Pet. 1.
11-24- 9 Agard, Basom et al 3.
Bratton, Rogers et al 2, 4.
Hellman, Henderson & Holden 1.
3-25- 9 Dibert, Polhaums et al 4.
4-25- 9 Kenley, Pure Oil 3.
30-25- 9 Moss, Derby Oil 10.
Wells Drilling
7-23-12 Lindsay, Pulaski & Simmons 1.
20-23-13 Swanson, R. G. Gillespie 15.
21-23-13 Griblin, Cosden O. & G. 9.
13-23-10 Platt, Empire G. & F. 6, 7.
Edwards, Phillips Pet. 5.
5-23-11 Seely, Empire Gas & Fuel 7.
Seely, Tidal Oil 7.
4-24-10 Briketiz, Orlando Pet. 1.
24-25-11 Bollinger, S. W. Forrester 1.
11-24- 9 Lewis, Rogers et al 1.
Anderson, Transcontinental Oil 1.
14-24- 9 Agard, Basom et al 2.
Bratton, Rogers et al 2.
Bratton, Bitler & McGinnis 2, 3.
Agard, Rogers et al 2.
27-24- 9 Marshall, Polhamus et al 1.
34-24- 9 Nixon, Gypsy Oil 3.
11-25- 8 Tiechgraeber, Roth & Farrott 2.
14-25- 8 Welch, C. E. Roth & Co. 1.
19-25- 9 Ladd, Mid-Kansas Oil & Gas 3.
29-25- 9 Ladd, Griggs et al 1.
30-25- 9 Moss, Derby Oil 9.
7-26- 9 Vose, Miller et al 1.
21-26- 9 Klein, Magnolia Pet. 1.
24-26- 8 Weirshing, Smith & Carlson 1.
28-26- 9 Kuhn, Magnolia Pet. 1.
Shut Down
32-23-15 Weidle, Rogers & Hinkle 3.
1-21-13 Teft, Pryor & Lockard 2.
11-24-12 Dalton, Franklin 13, 14.
5-25-12 Gilroy, International Dev. 1.
9-26-12 Pasko, Tatlock et al 1.
5-22-10 Pixlee, Kreer et al 1.
Fee, Pixlee Pet. 3.
23-22-10 Clopton, Syndicate Oil 1.
23-24-10 Edwards, J. A. Edwards et al 1.
5-28-11 Anderson, N. F. Clark 2.
8-28-11 Davis, N. F. Clark 4.
15-24- 8 Nancock, Sharpless & Stark 1.
24-24- 9 Moore, Golman et al 1.
4-25- 9 Kenley, Pure Oil 1.
32-27- 8 Taylor, Haverhill Pet. 1.
18-28- 9 Dixon, Jamison et al 1.
Rigs, 38; wells drilling, 45; total, 83.

CHAUTAUQUA-ELK COUNTIES
Rigs

8-29- 9 Thompson, Connell Pet. 1.
12-29- 8 Porter, Roth-Burr Oil 4.
11-29- 8 Porter, Sinclair O. & G. 1.
Wells Drilling
13-29- 8 Hanna, Roth et al 1.
21-30- 9 Schull, Dedrick et al 1.
12-30- 9 Donnell, Service Oil 1.
18-29- 9 Porter, Rodin 1.
Shut Down
6-33- 9 Reed, Scott Oil 1.
Rigs, 3; wells drilling, 5; total, 8.

MONTGOMERY COUNTY
Shut Down

23-33-15 Johnson, Empire G. & F. 1.
Rigs, 0; wells drilling, 1; total, 1.

MARION COUNTY
Rigs

5-22- 4 Townsend, Wachorn O. & G. 34.
15-22- 4 Barton, Orlando Pet. 19.
2-21-5e Bickett, Grow et al 1.
14-21- 5 Sauble, Wentworth et al 1.
21-21- 5 Urshel, Federal Oil 4, 5, 6.
33-21- 5 Davis, Sheedy 1.
Wells Drilling
8-22- 4 Spier, Kansas Oil 4.
5-22- 4 Townsend, Watchorn O. & G. 36.
2-21- 5 Soper, Grow et al 1.
Shut Down
5-22- 4 Townsend, Watchorn O. & G. 33.
32-21- 4 Egt. Sec. Co., Morgan et al 1.
Rigs, 8; wells drilling, 5; total, 13.

MISCELLANEOUS
Rigs

Chase County—
34-21-10e McCray, Buck et al 2.
Clark County—
21-32-21w Unknown, Watchorn O. & G. 1.
Coffey County—
34-22-13 Efflinger, Theta Oil 7.
Cowley County—
20-33-3e Westman, Hill & Phillips 1.
Glasgo, Hill & Phillips 1.
6-31-6e Eastman, Empire G. & F. 1.
8-31-6e Stout, Phillips Pet. 1.
15-30-4e Newton, Hepler et al 4.
Lyon County—
36-21-10 Harriott, Gentles et al 1.
Morris County—
3-12- 7 Renier, Northern Oil 1.
Osborne County—
34-10-15w Worley, McKnight 1.
Rice County—
15-21-10w Taylor, Proctor et al 1.
Sedgwick County—
34-26-1e Tjaden, Wichita O. & G. 1.
Sumner County—
34-30-1w Conn, Allison & Fitzwilliams 1.
Stafford County—
23-21-11w Cooper et al 1.
Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)
Barber County—
33-30-14w Unknown, Wizard Oil 1*.
Barton County—
22-18-13w Everleigh, Mountain States 1*.
27-18-12 Sooy, Cheyenne Oil 1*.
31-18-12 S. J. Tall, Haynes 1*.
21-19-12w Unknown, McMahon et al 1.
Chase County—
19-21- 6 Griffith, Security O. & G. 1*.
19-19- 8 Koub, Dave Alter et al 1*.
33-19- 9 Wattie Bros., Heppler et al 1*.
Clay County—
21- 9- 4 Unknown, Skow Bros. 1.
Clark County—
20-32-21w Unknown, Watchorn O. & G. 1*.
Coffey County—
29-20-13 Miller, Waite Phillips 1.
24-20-12 Unknown, Smith et al 1.
12-20-13 Martin, Addison et al 1*.
1-21-13 Edwards, Pryor & Lockhart 1.
Cowley County—
1-35- 7 Olson, Slick et al 6*.
18-32- 6 Harrison, Southwestern 1.
24-32- 4 Shannon, Gypsy Oil 1.
24-32- 4 Kukeek, Buffalo Trust 7.
15-30- 4 Newton, Elwell, S. & S. Co. 1*.
Newton, Shawver & Sutter 1.
Magnuson, Sutter & Stearns 1.
19-32- 5 Leirman, McNab et al 1*.
20-33- 3 Johnson, Hill & Waite Phillips 1.
32-31- 4 Brasher, Brown Bros. 1*.
25-32- 4 Gehlik, Boggs et al 1.
Baker, Torrence & Torrence 3*.
McFadden, Reiter Oil 6.
36-32- 4 Kertley, Watchorn O. & G. 1*.
35-30- 5 Wray, Rogers Bros. 1*.
Finney County—
33-21-30 Ladd, Garden City Oil 1*.
Geary County—
30-13-6e Foster, Marshall et al 1*.
Harvey County—
4-23- 2 Branawede, Derby Oil 1*.
33-22- 2 Brown, Wahn 1*.
20-22- 2 Sands, Duquette et al 1.
4-23- 2 Wetschenski, Newton Oil 3*.
3-23- 2 Krehbill, Shawver & Sutter 1.
Kingman County—
34-27-7w Garber, Hayes et al 1*.
Lyon County—
13-21-10 Schrader, Super Six 1*.
20-20-12 Miller, Tatleck et al 1*.
Morris County—
30-13- 6 Foster, Marshall et al 1*.
Osborne County—
20-10-11w Dorman, Delhi O. & G. 1*.
Pottawatomie County—
11-10-12 St. Mary's, Crawford et al 1*.
4-10-12 Doyle, Crawford & Jennings 1*.
Reno County—
5-26- 4w Unknown, Travis et al 1.
28-25- 6w Unknown, Hayes et al 1*.
Republic County—
23- 5- 1w Welders, Mitchell O. & G. 1*.
Rice County—
32-20- 6w Smith, Younker & Douglass 1*.
Riley County—
20-10- 7 Thierer, Wilton Oil 1*.
26-10- 6e Marks, O'Neil et al 1*.
36- 7- 4 Doyle, Gentles et al 1*.
Russel County—
8-12-15w Oswald, Valerius et al 1.
Sedgwick County—
2-29-2e Fleming, Higgins et al 1.
30-29- 3w Robinson et al 1.
Seward County—
34-34-34w Wood, Defender O. & G. 1*.
20-33-33w Seely, Seward Oil 1*.
Sumner County—
34-34- 1w Byers, Cloud et al 1*.
13-33- 2e Turpin, Brady Bros. 1*.
33-32- 2e Young, Frantz et al 1*.
13-31- 2e Stout, S. H. E. Oil 1.
16-30- 1w Hitchcock, Champlin Ref. 1*.
Trego County—
5-11-25w Welch, Keys Pet. 2*.
9-11-22 Unknown, Mississippi Valley Oil 1.
Washington County—
9- 5- 5 Unknown, Barnes O. & G. 1*.
Rigs, 15; wells drilling, 63; total, 78.

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Navarro	48	11,573	7	1	5	40	45
Limestone	0	0	0	0	0	4	4
Miscellaneous	0	0	0	0	10	60	70
Total Jan.	48	11,573	7	1	15	104	119
Total Dec.	117	80,187	37	2	13	144	157
Difference	69	68,614	30	1	2	40	38

NAVARRO COUNTY
Wells Completed

Powell Field—
Keyser, Findley et al 1 ..... dry
Reed, Cranfill Bros. & Penn. 1..... dry
Chapman, McMann Oil Co. 7 600
Burk, Witherspoon Oil Co. 10 200
Kent, The Texas Co. 16 300
Cerf, R. E. Brooks 5 100
Hill, Elliott et al 2 150
Bush, Gulf Production Co. 3 500
Cerf, Humble O. & R. 8-A 400
Cerf, Humble O. & R. 4-B ..... dry
Cerf, Humble O. & R. 5-B 200
Hill, Humble O. & R. 1 350
Hill, Humble O. & R. 2 250
Alexander, J. K. Hughes Dev. Co. 3 400
Alexander, J. K. Hughes Dev. Co. 6.. 200
Hill, Hoosier et al 1 235
Kent, Garland Kent 7 200
Kent, Garland Kent 9 200
Kent, Garland Kent 12 600
Fleming, Garland Kent 14 ..... abd
Fleming, Garland Kent 17 190
Cerf, McMahon et al 2 200
Cerf, Barker et al 1-B 70
Ramsey, E. L. Smith Oil Co. 5 90
Hill, Strukey & Strukey 1 200
Humphreys, Terrell Production Co. 1.. 300
Clements, Millerman & Dorney 1 ..... dry
Fleming, Upchurch et al 2 350
Kellum, Atlantic O. P. Co. 9 160
Kellum, Atlantic O. P. Co. 11 1340
Kellum, Atlantic O. P. Co. 12 300
Goldman, Atlantic O. P. Co. 1 ..... dry
Crews, Gulf Production Co. 17 200
Howell, Mutual Oil Co. 8 195
Boyd, Simms Oil 2 15
Howell, Simms Oil Co. 3 1000
Boyd, Simms Oil Co. 4 90
Rose, Simms Oil Co. 7 200
Rose, Simms Oil Co. 8 60
Rose, Simms Oil Co. 9 ..... gas
Kellum, Simms Oil Co. 2 1000
Kellum, Simms Oil Co. 3 160
Right of Way T. & B. V. R. R. 3 200
Right of Way, T. & B. V. R. R. 5 200
Boyd, Webster et al 1 63
Harvard, Yoder et al 2 70
Harvard, Yoder et al 3 25
Jackson, Taylor et al 1 ..... dry

Wells completed	48
Production	11,573
Dry	1
Gas	1
Gas production	10,000,000

NAVARRO COUNTY
Rigs

Powell Fields—
McKee, Humphreys Oil Co. 63.
Bush, R. E. Brooks 5.
Barry, Garland Kent 1.
Howell, Simms Oil 2.
Richland District—
Swink, Gutman et al 1.

Wells Drilling and Shut Down
Powell Field—
Vinson, Seaport Pet. 2.
Chapman, McMan Oil 1.
Woolens, O'Hern et al 1.
Woolens, Barclay & Meadors 1.
Cerf, R. E. Brooks 8.
Cerf, Humble O. & R. 7-A.
Hill, Humble O. & R. 8.
Humphreys, Humble O. & R. 23, 24.
Walker, Humble O. & R. 4.
Ramsey, Humble O. & R. 14-B.
Alexander, J. K. Hughes Dev. Co. 5, 7.
Fleming, Garland Kent 18, 20.
Cerf, Parker et al 3.
Cerf, E. L. Smith Oil 1.
Fleming, Upchurch et al 1.
Kellum, Atlantic O. P. Co. 8.
Harvard, Gilbert Johnson 1, 2, 3, 4.
Holmes, McMahon et al 1.
Woolens, McIntyre et al 1.
Goldman, Neeney & Smith 1.
Allen, Simms Oil 1.
Boyd, Simms Oil 4.
Rose, Simms Oil 5, 7.
Smith, E. C. Meade et al 1.
Autrey, The Texas Co. 1.
Currie—
Bounds, Humphreys Oil 8.
Longbotham, Snowden & McSweeney 7, 8.
Morrow, Trapshooter Reilly 1.
Richland—
Brown, McDonald et al 1.
Swink, Langley et al 1.
Swink, Miller Lewis 1.
Miscellaneous—
Thornton, Ranger Vindicator 1.
Rigs, 5; wells drilling, 40; total, 45.

LIMESTONE COUNTY
Wells Drilling

Mook, Mexia Giant 1.
Bassett, Transcontinental Oil 1.
Head, Tex Rickard 1.
Priddy, Yoder et al 1.
Rigs, 0; wells drilling, 4; total, 4.

MISCELLANEOUS
Rigs

Bowie County—
Chalk, O'Bannon Bros. 1.
Milam County—
Ashley, Milano Pluet 1.
Raines County—
Hunt, Lovewell Oil Co. 1.
Smith County—
White, Whitaker & Maddox 1.
Anderson County—
Turner, Hughes et al 1.
Cass County—
Spears, Bankers Trust 1.
Caster, Gibbs Pet. Co. 1.
Falls County—
Allen, Southern Rose O. & G. 1.
Henderson County—
Kade, Ben Crow Oil Co. 1.
Pully, Mitcham et al 1.
Wells Drilling and Shut Down
Freestone County—
Smith, Pope et al 1.
Knight, O. K. O. & G. 1.
Bounds, Trapshooter Reilly 1.
Henderson County—
Wood, F. Haynes 1.
Johnson, Pipe Grove Oil Co. 1.
Ziensendanger, Mexia Henderson Oil Co. 1.
Smith-Logan, Union Pet. Co. 1.
Hunt County—
Hays, Tri-Cities O. & G. 1.
Miller, McPhail O. & G. 1.
Kaufman County—
Carlisle, Roscie et al & T. P. C. & O. 1.
Porter, Trapshooter Reilly Oil Co. 1.
Leon County—
Bolen, Leon County Oil Dev. 1.
McKinnon, Kechi O. & G. 2.
Smith, Deep Springs Oil.
Carrington Mexia Marquet Oil Co. 1.
Milam County—
Posey, Guberson et al 1.
Reed, Rosebud Mexia 1.
Lotters, F. C. Nelson 1.
Stark, Williams & Hail 1.
Bremond, Twin City O. D. 1.
McLennan County—
Shelton, Tudor Oil 1.
Schnecker, Mexia Central Oil 1.
Holloway, Mexia Commonwealth Pet. Co. 1.
Anderson County—
Manning Plant, Palestine Oil Co. 1.
Bowie County—
Parkley, Baldy Springs Oil Co. 1.
Hooks, North Boston O. & G.
Taylor, Tri-State Oil Co. 1.
Cass County—
Evans, Caldwell et al 1.
Crew, Simms Oil Co. 1.
Dallas County—
Grimes, Carnahan Drg. Co. 1.
Gracey, Dallas Pet. & Dev. Co. 1.
Davis, It's In Dallas Oil Co. 1.
Mitchell, It's In Dallas Oil Co. 1.
Eubanks, W. F. Nabors et al 1.
Ellis County—
Hoesmer, Mexia Tri State Co. 1.
Falls County—
Price, Balto-Tex Oil Co. 1.
Jennings, Inland Oil Co. 1.
Peters, Grove Edwards 1.
Peacock, High Banks Oil Co. 1.
Harlan, Texola Pet. Co. 1.
Clark, Peace Pet. Co. 1.
Covington, Mayflower Oil Co. 1.
Brown, Edwards et al 1.
Red River County—
Simmons, Clarksville Texas Oil Co. 1.
Arnold, Isabelle Gibbons Co. 1.
Antone, Johnson Pet. Synd. 1.
Robertson County—
Holloway, Campbell et al 1.
Walker, Kentucky-Texas Oil Co. 1.
Stephens, Texola Oil Co. 1.
Smith County—
Sykes, Rainbow Oil Co. 1.
Carey, North Texas Oil Co. 1.
Phillips, Apex Oil Co. 1.
Titus County—
Oregon, Bosler et al 1.
Van Zandt County—
Jones, Mexia Drg. Co. 1.
Dunbar, Terrell Oil Co. 1.

Williamson County—
Ganzert, Amarillo Oil Co. 1.
Sobran, McNeil & McDowell 1.
Keenon, United Oil Workers 1.
Wood County—
Adrian, Golden Oil Co. 1.
Senter, Texas O. & M. Co. 1.
Rigs, 19; wells drilling, 66; total, 70.

NORTH TEXAS FIELDS

Summary of Completed Work

District—	Comp.	Prod.	Dry	Gas
Wichita	20	1,146	7	0
Burkburnett	14	1,517	5	0
Eastland	20	940	5	0
Stephens	15	975	7	1
Young	16	135	11	0
Archer	50	6,805	11	0
Wildcats	30	175	18	3
Total January	165	11,693	64	4
Total December	117	7,141	29	4
Difference	48	4,552	35	0

Summary of New Work

District—	Rigs	Drg.	Ttl.
Wichita	18	38	56
Burkburnett	1	6	7
Eastland	9	19	28
Stephens	13	21	34
Young	5	17	22
Archer	22	69	91
Wildcats	16	50	66
Total January	86	220	306
Total December	73	203	276
Difference	13	17	30

BURKBURNETT-HIRSCHI WELLS COMPLETED

Burnett, Brown and others 2 ..... dry
Sanders, John O'Neil 4 65
Hirschi, Pigg Oil Co. 17 175
Dale, Gulf Prod. Co. 14 150
Van Horn, Powell and others 1 ..... dry
Sanders, Perkins and others 2 130
Hirschi, Pigg Oil Co. 18 300
Hirschi, The Sun Co. 25 125
Dale, Gulf Prod. Co. 15 132
Sanders, John O'Neil 6 240
Sanders, Perkins and others 3 ..... dry
Hirschi, Pigg Oil Co. 19 200
Wolf, Wellman and others 1 ..... dry
Kennedy, Baldwin Brothers, 12-C ..... dry

Wells completed 14
Production 1517
Dry 5

WICHITA-WILBARGER COUNTIES

Marshall, Panhandle O. & R. Co. 1 ..... dry
Waggoner, Texhoma O. & R. Co. 11-F 87
K. & K., Carter et al 2 135
Bonet, Holcomb et al 1 ..... dry
Waggoner, Magnolia Pet. Co. 5-B 15
Doris, Kentucky O. Corp. 1 ..... dry
Lautenslager, Lucky Hill O. Co. 1 ..... dry
Waggoner, Kruger et al 7 52
Burnett, Empire G. & F. Co. 26 1
Jackson, Shappell et al 1 315
Waggoner, Rowe Drilling Co. 1 30
K. & K., Carter Inland O. Co. 1 80
Burnett, Texhoma O. & R. Co. 1-C 42
Chilson, Panhandle Ref. Co. 1 12
Cordor, Byrne & Co. 1 ..... dry
Waggoner, Houston Oil Co. 14 32
Jeff Waggoner, Stump O. & G. Co. 1 .. dry
Waggoner, Texhoma O. & R. 12-F 25
Terhune, Comas Oil Co. 1 ..... dry
Hamilton, Texhoma O. & R. Co. 1 320

Wells completed 26
Production 1146
Dry 7

ARCHER COUNTY

Wilson, Chenault et al 6-B 78
Wilson, Chenault et al 7-B 40
Jackson, Ferguson et al 1 ..... dry
Wilson, Johnson et al 1 560
Wilson, Morris et al 1 25
Wilson, 66 Oil Co. 4-B 310
Carter Bros., Sunshine State O. & R. Co. 13 125
Carter Bros., Sunshine State O. & R. Co. 13 113
Wilson, Chenault et al 5-C 90
Richardson, Clayton et al 2 45
Wilson, Maer et al 1 512
Mrs. Carter, Maer et al 7 110
Wilson, Murchison et al 1 ..... dry
Parrish, Payne et al 1 35
Wilmot, Underwood Drilling Co. 3 80
Carter Bros., The Texas Co. 10 200
Wilson, Barkley et al 2 ..... dry
Mrs. Carter, Boyd et al 1 ..... dry
Wilson, Camp O. & G. Co. 2 450
Wilmot, Haile et al 7 125
Wilson, Dorain et al 1 150
Wilson, Featherstone et al 7-C 250
Egbert, R. M. F. O. Co. 2 140
Wilson, R. M. F. O. Co. 1 150
Richardson, Shamrock O. Co. 4 65
Wilmot, Sibley et al 7 125
Wilson, 66 O. Co. 6-B 176
Ford, Thomas et al 1 ..... dry
Wilson, Underwood Drilling Co. 1 70
K. & K., Dr. Wallace 15 100
Wilson, Bridwell et al 1 ..... dry
Wilson, Camp O. & G. Co. 4 100
Wilson, Featherstone et al 5-C 100
Coleman, Green et al 1 ..... dry
Wilson, Kentucky O. Corp. 1 450
Wilson, Maer et al 2 405
Wilson, Murchison et al 1-B 420
Wilson, Riner et al 2 22
Parmer, The Sun Oil Co. 2 15
Neal, Swastika O. Co. 1 ..... dry
White, Dixon et al 1 ..... dry
Mrs. Carter, Gwynn et al 6 65
Wilson, Dale et al 2-C 200
Wilson, Dale et al 3-C 250
Wilson, Maer et al 3 100
Parrish, Perkins et al 1 ..... dry
Richardson, Shamrock O. Co. 1-B 235
Wilson, 66 O. Co., 7-B 280
Wilmot, Underwood Drilling Co. 4 30
Wilson, Williams et al 1 ..... dry

Wells completed 50
Production 3805
Dry 11

EASTLAND COUNTY

Hawkins, Gates Oil Co. 4 40
Herrill, Humble O. & R. Co. 4 30
Gilbert, Rosenfield et al 1 15
Hightower, Panhandle Refining Co. 7 .. 30
Bond, Root et al 4 ..... dry
Collins, Ablon et al 1 ..... dry
Edison, Knox-Lewis O. Co. 3 70
Ross, Magnolia Pet. Co. 4 25
Webb, Ocheltree et al 1 5
Hightower, The Texas Co. 3 45
Brelsford, Donnelly Bros. 1 ..... dry
Harrell, Mid-Kansas O. & G. Co. 5 300
Hightower, Panhandle O. & R. Co. 8 .. 125
Hightower, Panhandle O. & R. Co. 9 .. 140
Steel, Turner et al 1 20
Brooks, Prairie O. & G. Co. 5-A 65
Carter, Root et al 4 ..... dry
Walker, Root et al 1 ..... dry
Ackers, Moore et al 2 20
Faulker, Slick et al 1 20

Wells completed 20
Production 940
Dry 5

STEPHENS COUNTY

Martin, Weekley Pet. Co. 2 320
Rush, Magnolia Pet. Co. 12 50
Walker, Magnolia Pet. Co. 4 ..... gas
Couger, Mid-Kansas O. & G. Co. 2 100
Hill, Mid-Kansas O. & G. Co. 2 55
Hill, McClain et al 1 ..... dry
Brace, Price et al 2 300
Bradford, Qualey et al 1 ..... dry
Lee, Texas Pacific C. & O. Co. 1 ..... dry
Walker & Caldwell, Owens et al 1 100
Douglas, Moore et al 3 ..... dry
Ball, Roxana Pet. Co. 3 ..... dry
Ball, Roxana Pet. Co. 4 ..... dry
Henderson, Sinclair O. & G. Co. 5 50
Ashmore, Texas Pacific C. & O. 3 ..... dry

Wells completed 15
Production 975
Dry 7
Gas 1

YOUNG COUNTY

Carter, Snowden & McSweeney 1 ..... dry
Whittenburg, Mann et al 5 20
Hockaday, Gulf Prod. Co. 2 ..... dry
McLaren, Weekly et al 3 ..... dry
Lynn, Bertrand et al 3 ..... dry
Whittenburg, Bertrand et al 4 ..... dry
Jones, Coleman et al 1 ..... dry
Hockaday, Gulf Prod. Co. 1-A ..... dry
Bullock, Holcomb et al 1 ..... dry
Costello, Lindsay et al 1 25
Williams, Nash et al 1-B 20
Grubbs, Robinson et al 1 ..... dry
Hughes, Seaboard-Simmons 4 35
Bower, Shamrock O. Co. 3-A 35
McBrayer, Standard Pet. Co. 1 ..... dry
Harrell, Texas Eureka Synd. 1 ..... dry

Wells completed 16
Production 135
Dry 11

WILDCATS

Palo Pinto County—
Stuart, Republic Prod. Co. 1 ..... dry
Holt, Gibson et al 1 ..... dry
Dalton, Dalton O. Co. 1 ..... dry
Dalton, Dalton O. Co. 5 ..... dry
Holt, Gibson et al 1 ..... dry
Conklin, Clark et al 1 ..... dry
Costello, Costello et al 1 15
Brown County—
Prather, Gillett et al 2 35
Newlin, Gillman et al 4 20
Shackelford County—
Elliott, Humble O. & R. Co. 1 ..... dry
Terry, Slough et al 1 ..... dry
Brazzelle, Landreth O. Co. 2 15
Baylor County—
Portwood, Waggoner et al 1 ..... dry
Clay County—
Skelley, Lone Star Gas Co. 9 ..... gas
Panhandle, Lone Star Gas Co. 7 ..... gas
Jack County—
Woodward, Duncan et al 1 ..... dry
Haskell County—
Ballard, Commonwealth O. Co. 1 ..... dry
Reynolds, Glynn Pet. Co. 1 ..... dry
Colbert, York et al 1 ..... dry
Callahan County—
Parks, Duffee et al 5 10
Woody, Edgett et al 1 ..... dry
Dieter, Lane et al 1 ..... dry
Wagley, Borealis et al 4 10
Jones, Schaffner et al 1 ..... dry
Barr, Stone et al 1 ..... gas
Mitchell County—
Morrison-Reilly, the California Co. 1 ... 35
Coleman County—
Tracks, Case Oil Co. 1 ..... dry
Star, Roth et al 1 ..... dry
Gates, Sunflower O. Co. 2 15
Throckmorton County—
Reynolds, Richardson et al 1 10

Wells completed 20
Production 175
Gas 3
Dry 18

BURKBURNETT

Rigs
Burbaum, Bailey et al 1.

Wells Drilling
Dale, Gulf Prod. Co. 16.
Eads, Kemp et al 6.
Saunders, McDabb O. Co. 2-A.
Holcomb, Magnolia Pet. Co. 22.
Hortoin, Magnolia Pet. Co. 20.
Hirschi, Pigg Oil Co. 20.
Rigs, 1; wells drilling, 6; total, 7.

WICHITA & WILBARGER COUNTIES

Rigs
Waggoner, Black Cat O. Co. 5-B.
Douglas, Camp O. & G. Co. 17.
Waggoner, Gulf Prod. Co. 1-J.
Douglas, Magnolia Pet. Co. 9-B.
Waggoner, American Ref. Co. 1.
Fassett, Bowen et al 1.
Waggoner, Eureka Prod. Co. 8.
Waggoner, Magnolia Pet. Co. 30-A, 32-A. 6-B.
Nance, Ryan Pet. Co. 12.
Burnett, Stacy et al 1.
Waggoner, Texhoma O. & R Co. 13-F.
Waggoner, Waggoner et al 1.
Parker, Nabor et al 1.
Jackson, Shappel et al 3.
Dutton, Simms O. Co. 1.
Waggoner, Ferguson et al 1.

Wells Drilling
Waggoner, The Texas Co. 236.
Waggoner, Cruger et al 8.
Douglas, Magnolia Pet. Co. 7.
Waggoner, Magnolia Pet. Co. 2-C.
Honaker, Memphis Pet. Co. 3.
Waggoner, Rowe Drilling Co. 2.
Seay, Cowling et al 1.
Waggoner, Culberson et al 21.
Jennings, Four States O. Co. 7.
Fisher, Fisher et al 3-B.
Miller, Gulf Prod. Co. 1.
Burnett, Hartford Trust Co. 6-A, 12.
Waggoner, Magnolia Pet. Co. 31-A.
Pere Waggoner, Magnolia Pet. Co. 2.
Burnett, Magnolia Pet. Co. 38-B, 67-B, 1-A.
Waggoner, Nocl et al 1.
Fisher, Sproles et al 1.
Brunett, Simms O. Co. 14.
Jeff Waggoner, Wiley et al 1.
Waggoner, Texhoma O. & R. Co. 15-E.
Burnett, Texhoma O. & R. Co. 4-A, 28-A.
K. & K., Carter et al 3.
K. & K., Staley et al 3.
Watkins, Hanes et al 2.
Dutton, Knight et al 1.
Jackson, Panhandle Ref. Co. 1.
Love, Parker Bros. 1.
Rhodes, Perkins et al 1.
Jackson, Shappel et al 2.
Henderson, Taylor et al 1.
Hamilton, Texhoma O. & R. Co. 2.
Waggoner, Adams et al 1.
McCaleb, Robinson et al 1.
Stephens, South Vernon O. Co. 1.
Rigs, 18; wells drilling, 38; total, 56.

ARCHER COUNTY

Rigs
White, Allday & Co. 1.
Ward, American Ref Co. 1.
Wilson, Anderson et al 2.
Martini, Armstrong et al 1.
Wilson, Camp O. & G. Co. 5.
Farmer, Comac O. Co. 1.
Wilson, Dale et al 5.
Wilson, Empire G. & F. Co. 1-C.
Wilson, Gwynn et al 1, 2-B.
Carter, Hawkins et al 4.
Parrish, Humble O. & R. Co. 1.
Wilson, Kentucky O. Corp. 1-B, 1-C.
Ground, King et al 1.
Seay, Knight et al 1.
Netherton, Raznor et al 1.
Richardson, Shamrock O. Co. 3.
Harbison, Shamrock O. Co. 1, 2.
Heim, Stuart et al 1.
Richardson, Swastika O. Co. 1-C.

Wells Drilling
Dormier, The Texas Co. 1.
Parrish, The Texas Co. 1.
Wilmot, Boler et al 3.
Wilson, Brannon et al 1.
Wilson, Bridwell et al 2.
Wilson, Burns et al 1.
Wilson, Burton and Huff 1.
Wilmot, Camp O. & G. Co. 6.
Wilson, Camp O. & G. Co. 3.
Richardson, Chenault et al 2.
Miller, Clark et al 1.
Wilson, Dale et al 3, 4.
Wilson, Kentucky O. Corp. 2-B, 4-C.
Magnolia, Dee et al 3.
Wilson, Dorain et al 2.
Wilson, Empire G. & F. Co. 2-B, 3-B.
Ferguson, F. & H. Synd. 14-A.
Wilson, Featherstone et al 8-C, 4-C and 10-C.
Ferguson, Fort Ring O. Co. 7.
Wilson, Graham et al 1.
White, Gould et al 2.
Mrs. Carter, Gwynn et al 7, 8.
Wilson, Gwynn et al 1-B.
Vothberger, Hammond et al 1.
Wilson, Henley et al 1-B.
Ambercrombie, Hudspeth et al 2.
Netherton, Humble O. & R. Co. 2.
Nichols, Humble O. & R. Co. 1.
K. & K., Kimel et al 4.
Nelson, Larkin et al 1.
Miller, Litchfield et al 1.
Wilson Maer et al 1-B.
Matthews, Mid-Kansas O. & G. Co. 1.
Cowan, Morgan O. Co. 1.
Wilson, Morris et al 2.
Wilson, Murchison et al 2-B, 3-B, 1-C.
O'Donnell, Norton et al 1.
Parrish, Oil Invest. Co. 4-B.
Warren, Orth et al 1.
Ford, Pace et al 1.
Jackson, Parker Bros. 1.
Saunders, Petroleum Prod. Co. 1.
White, Pyles et al 1.
Wilson, R. M. F. O. Co. 2, 1-B.
Dowlen, Simms O. Co. 1.
Wilson, 66 O. Co. 8-B.
Nichols, Staley et al 1.
Carter Bros., Sunshine State O. & R. Co. 5, 14.
Parrish, Sunshine State O. & R. Co. 2.
Richardson, Swastika O. Co. 2-B.
White, United Royalty Co. 1.
Parrish, Tackett et al 2.
Parrish, Texas Wonder Pool 1.
Wilson, Verschoyle et al 1, 1-B.
Carter, Texhoma O. & R. Co. 8.
Garvey, Wall-Duke O. Co. 1.
Lyles, Wall-Duke O. Co. 2.
Wilson, White O. Corp. 1.
Rigs, 22; wells drilling, 69; total, 91.

YOUNG COUNTY

Rigs
Hughes, Associated O. Synd. 1.
Marshall, Bashara et al 1.
Hawkins, McKenzie et al 1.
Glidwell, Mutual O. Co. 3.
Glidwell, Shamrock O. Co. 2.

Wells Drilling
Mahoney, Bryneas et al 1.
Henson, Calmo O. Co. 1.
Vick, Harrown et al 1.
Carter, McGuire et al 1.
Logan, McKenzie et al 1.
Gibson, Mid-Kansas O. & G. Co. 1.
Moren, Mid-Kansas O. & G. Co. 1.
Bower, Nash et al 1.
Scott, North Amer. Ref. Co. 1-B.
Bolen, Peter et al 1.
Hughes, Pomona Valley O. Co. 1.
Wilburn, Richardson et al 1.
Hughes, Seaboard O. & G. Co. 5-A, 6-A.
Moren, Sinclair O. & G. Co. 3.
Graham, Whitehead et al 1.
Johnson, Whitehead et al 1.
Rigs, 5; wells drilling, 17; total, 22.

EASTLAND COUNTY

Rigs
Westmoreland, Brothers O. Co. 2.
Waggoner, The Dixie Co. 1.
Merrill, Humble O. & R. Co. 5.
Holcomb, Lobaugh et al 1.
Dulin, Lobaugh et al 1.
Dawson, McLester et al 1.
Harrell, Mook et al 2.
Faulker, Moore et al 2.
Clinton, Urban et al 1.

Wells Drilling
Ross, McFall et al 1.
Colloway, Gresham et al 1.
Harris, Kokomo O. Co. 2.
Hogg, Lone Star G. Co. 2-A.
Westmoreland, Magnolia Pet. Co. 15.
Westmoreland, McLester et al 3.
Abernathy, Post Duke O. Co. 3.
Gilbert, Rosenfield et al 2.
Quiett, States O. Corp. 4.
Hightower, The Texas Co. 4.
Braschears, Texas Pacific C. & O. Co. 2.
Johnson, Dougherty et al 1.
Lanier, Humble O. & R. Co. 1.
Luse, Mahew et al 1.
Brunett, Rosenfield et al 1.
Ray, Stovar et al 1.
Lewis, Texas Development Co. 1.
Harwood, Turner et al 1.
Rio Bravo, Turner et al 1.
Rigs, 9; wells drilling, 19; total, 28.

STEPHENS COUNTY

Rigs
Cobb, Critten et al 2.
Lowe, Mid-Kansas O. & G. Co. 3.
Keel, Pender Prod. Co. 2.
Davis, Pender Prod. Co. 3.
Williams, Spratt et al 1.
Dodd, Haile et al 1.
Bruce, Mahlstedt & Mook 2.
Bradford, McGovern et al 1.
Henderson, Sinclair O. & G. Co. 6, 7.
Heathley, The Texas Co. 6.
Parks, The Texas Co. 38-A.
Gardenshire, Texas Fidelity Co. 5.

Wells Drilling
Douglas, Ellasville Pet. Synd. 1.
Hill, Mid-Kansas O. & G. Co. 12.
Richardson, Mid-Kansas O. & G. Co. 1.
Williams, Mid-Kansas O. & G. Co. 2.
Atkins, Prairie O. & G. Co. 15.
Knox, Republic Prod. Co. 4.
Sweeney, Rochelle et al 1-A.
Higginbotham, Snowden et al 14.
Martin, Texas Consolidated O. Co. 5.
Compton, Curry Pool O. Co. 1.
Wallace, Empire G. & F. Co. 6.
Sanders, Graham et al 1.
Jones, Haile et al 1-B.
Brown, Magnolia Pet. Co. 4.
Davis, Pender Prod. Co. 2.
Bruce, Quakins Pet. Co. 1.
Jones, Rosser et al 5.
Davis, Scott et al 2.
Elliott, Swensondale O. Co. 1.
Herrington, Swensondale O. Co. 1.
Swenson, Swensondale O. Co. 19.
Rigs, 13; wells drilling, 21; total, 34.

WILDCATS

Rigs
Clay County—
Stine, Cumley et al 1.
Dean, Pipes et al 1.
Zeihlman, Seaboard O. & G. Co. 1.

Wells Drilling
Kinder, Crude O. Prod. Co. 1.
Boddy, Gulf Prod. Co. 1-A.
Worsham, Gulf Prod. Co. 3.
Martin, Lone Star Gas Co. 1.
Withers, Lone Star Gas Co. 2.
Myers, Nebraska O. & G. Co. 1.
Scaling, Scaling O. Corp. 1.

Wells Drilling
Montague County—
Rucktashel, The Texas Co. 1.
Beasley, Amerada O. Co. 1-A.
Throckmorton County—
School Lands, Ashcroft et al 1.
Reynolds, Richardson et al 1.
Carson County—
Armstrong, Culberson Bros. 1.
Burnett, The Texas Co. 3.
Burnett, Gulf Prod. Co. 3-A.
Burnett, Silk et al 2.
Gray County—
Saunders, The Texas Co. 1.
Hemphill County—
Hopkins, Piney O. Co. 1.

Rigs
Hutchison County—
Cable, Watchorn O. Co. 1-A.
Johnson, Whittacre et al 1.

Wells Drilling
Hutchinson County—
Sandford, Coline O. Co. 1.
Johnson, Humphreys O. Co. 1.
Johnson, Montgomery et al 1.
Smith Capers, McGee et al 1.
Bivens, Prod. & Ref. O. Co. 1-B.
Potter County—
Bivens, Prod. & Ref. Corp. 1-A.

Rigs
Wheeler County—
Bradley, Schenck et al 1.

Wells Drilling
Wheeler County—
Davis Bros., Skelly O. Co. 1.
Sheldon, Tyrell et al 1.

Rigs
Shackelford County—
Poindexter, Humble O. & R. Co. 5-A.
Elliott, Humble O. & R. Co. 1.
Myles, Landreth O. Co. 1.
Poindexter, Landreth O. Co. 13.
Elliott, Garver et al 1.
Elliott, Simms O. Co. 1.

Wells Drilling
Parrish, Beggs et al 1.
Brooks, Donnelly et al 1.
Jackson, Humble O. & R. Co. 1.
Poindexter, Humble O. & R. Co. 1-E.

Lynch, Landreth O. Co. 2.
Poindexter, Landreth O. Co. 11, 14.
George, Magnolia Pet. Co. 3.
Black, Texhoma O. & R. Co. 2.

Rigs

Palo Pinto County—
Carter, Skelly O. Co. 2.

Wells Drilling

Stuart, Texas Pacific C. & O. Co. 144.
Pruitt, Moore & Sneibold 1.
Finch, Nelson O. Co. 2.
Costello, Simms O. Co. 1.
Wharton, Upham Gas Co. 2.
Weldon, Zada Bell O. Co. 1.

Rigs

Callahan County—
Clinton, Urban et al 1.

Wells Drilling

Cathey, Dutton et al 2.
Finley, Hickey et al 2.
Thorn, Junior O. Co. 1.
Ackers, Moore et al 4.
Allen, Shackelford et al 1.

Rigs

Mitchell County—
Morrison, Carey et al 1.
Abrams, The California Co. 5.
Morrison, The California Co. 6-E.

Wells Drilling

Badgett, Kelsay et al 1.
Smart, Sloan et al 2.
Morrison, The California Co. 1, 2.
Butler, The California Co. 1.
Miller, The California Co. 2.

Rigs

Brown County—
Bashara, Maher Bros. 1.

Wells Drilling

Windham, Infield Pet. Co. 4.
Prather, Leonard Pet. Co. 2.
Strickland, Pennant O. & G. Co. 1.
Rigs, 18; wells drilling, 50; total, 68.

N. LOUISIANA-ARKANSAS

Summary of Field Operations

Districts—	Comp.	Pro.	I. Dry	Gas	Rigs	Drg.	Ttl.
Smackover Dist., Union County	33	5,410	5	2	33	92	125
Ouachita Co.	42	5,371	0	2	22	77	99
Stephens Dist., Columbia and Ouachita Counties	4	125	0	0	9	16	25
Bellevue	13	391	1	0	2	2	4
Caddo	5	17	3	0	1	10	11
Claiborne	0	0	0	0	3	3	6
De Soto	0	0	0	0	1	2	3
Red River	1	0	1	0	0	2	2
La. wildcats	23	0	8	15	21	48	69
Ark. wildcats	5	125	4	0	9	42	51
Total Jan.	126	11,439	22	19	101	294	395
Total Dec.	95	12,380	15	11	90	166	256
Difference.	31	941	7	8	11	128	139

UNION COUNTY, SMACKOVER AND EL DORADO

4-19-15 Cullens, Arkansas Nat. Gas Co. 6 90
6-16-15 James, Crawford & Sebastian 5 gas
2-19-15 Snyder, Berfet et al 1 ..... dry
7- 7-14 Tufts, Donoway Oil Co. 1..... dry
22-16-15 Murphy, W. H., Federal Pet. Co. 2 125
22-16-15 Murphy, W. H., Federal Pet. Co. 3 175
28-17-12 Union Saw Mill, Federal Pet. Co. 2 ..... dry
7-16-16 McGraw, Ganzell et al 1 40
14-16-15 Clawson, Gulf Ref. Co. 1..... 200
17-16-15 Murphy, J. G., Gulf Ref. Co. 3 140
35-15-17 Lewis Werner, Gulf Re. Co. A-1 140
5-16-16 Lewis Werner, Gulf Ref. Co. 12 60
21-16-15 Jameson, Higgins Oil & Fuel Co. 3 150
7-16-15 Murphy, Hodges et al 1 200
3-16-15 Goodwin, B., Humble Oil & Ref. Co. 2 100
15-16-15 Murphy, E. G., Humble Oil & Ref. Co. 3 400
14-16-15 Murphy, E. G., Humble Oil & Ref. Co. 4 2000
8-16-15 Bilyiu, Llog Oil & Ref. Co. 2.. 200
12-16-16 Houston, Natural Gas & Pet. Co. 1 ..... gas
17-16-15 Murphy, Natural Gas & Pet. Co. 1 200
1-16-16 Primm, Natural Gas & Pet. Co. 1 ..... dry
23-16-15 Alphin, Page et al 2 40
15-16-15 Wells, Roxana Pet. Co. 4..... 80
8-16-15 Murphy, Sanford et al 1 225
5-16-16 Saxon, Standard Oil Co. C-1.. 20
5-16-15 Saxon, Standard Oil Co. B-2.. 90
12-16-17 Rhodes, Steele Oil Co. 1..... 100
3-16-15 Hays, Sun Co. 4 75
8-16-16 Childs, Tarver et al 1..... 100
17-16-15 Harrell, Welsman Oil Co. 2.... 300
6-16-16 Holloway, Wetherbee et al 1.. 100
6-18-14 Townsend, Woodley et al 2 ... dry

Wells completed 33
Production 5410
Dry 5
Gas 2
Gas production 45,000,000

OUACHITA COUNTY, SMACKOVER

25-15-17 Lagrone, Burch-Walker 4 200
28-15-16 Hughes, El Dorado Union Oil Co. 2 50
30-15-16 Shirey, El Dorado Union Oil Co. 3 175
36-15-17 Smith, El Dorado Union Oil Co. 2 120
28-15-16 Hardin, Forest Oil Co. 4 80
30-15-16 Watts, Giles et al 3 130
28-15-16 Fincher, Gulf Ref. Co. 4..... 15
19-15-16 Meek, Gulf Ref. Co. 1 157
31-15-16 Patton, W. F., Gulf Ref. Co. 1. 90
12-15-16 Patton, Gulf Ref. Co. 2..... 105
29-15-16 Solmson, Gulf Ref. Co. 2..... 125
31-15-16 Patton, E. K. Hamilton 1 200
30-15-16 Solmson, Hunt et al 3 100
28-15-16 Hardin, Invaders Oil Co. 3.... 80
29-15-16 McElroy, Johnson et al 1 170
32-15-16 Myer Estate, Keen & Woolf 3. 160
26-15-17 Peace, Klotz & Thomas 1 150
30-15-16 Shirey, Lanier et al 2 80
30-15-16 Shirey, Lanier et al 3 50
24-15-17 Berry, Lewis & Clark 4 100
32-15-16 Patton, Magnolia Pet. Co. 2... 125
32-15-16 Patton, Magnolia Pet. Co. 3.. 100
31-15-16 Smith, Magnolia Pet. Co. 2 ... 75
29-15-16 McElroy, Majestic - Smackover Oil Co. 2 250
24-15-17 Fee, Mangus Oil Co. 3 200
31-15-15 Laney, Roxana Pet. Co. 1..... gas
28-15-15 Hildebrand, Simms Oil Co. 6.. 64
32-15-16 Reynolds, Simms Oil Co. 1.... gas
31-15-16 Patton, Smith Ref. Co. 3..... 250
30-15-16 Fee, Smith Ref. Co. 4 170
30-15-16 Fee, Solmson et al 1 125
9-15-16 Solmson, Standard Oil Co. 3 .. 200
30-15-16 Fee, Sure Oil Co. 2 150
30-15-16 Chandler, The Texas Co. 1..... 210
20-15-16 Chandler, The Texas Co. 2..... 100
32-15-16 Solmson, The Texas Co. B-1... 55
29-15-16 Solmson, The Texas Co. A-3... 65
32-15-16 Patton, V. K. F. Drilling Co. 2 70
32-15-16 Patton, V. K. F. Drilling Co. 3 300
32-15-16 Patton, V. K. F. Drilling Co. 4 150
20-15-16 Berg, Whittaker et al 2 175
32-15-16 Patton, Woodley Pet. Co. 2 ... 200

Wells completed 42
Production 5371
Dry 0
Gas 2
Gas production 53,000,000

STEPHENS

24-15-20 Milner, Atlantic Oil Prod. Co. 4 40
24-15-20 Buffington, Pete Hoffman 1.. 25
25-15-20 Hammond, Magnolia Pet. Co. 4 30
24-15-20 Milner, Tate & Turley 4 30

Wells completed 4
Production 125
Dry 0
Gas 0

BELLEVUE

10-19-11 Bliss & Weatherbee, Bliss & Weatherbee A-8 10
15-19-11 Bliss & Weatherbee, Bliss & Weatherbee A-10 10
15-19-11 Fee, Louisiana Oil Ref Co. D-11 15
23-19-11 Strange, Olmstead et al A-13.. 25
15-19-11 Scandland, R. O. Roy 23 50
15-19-11 Scandland, R. O. Roy 24 40
15-19-11 Scandland, R. O. Roy 25 50
15-19-11 Scandland, R. O. Roy 26 50
15-19-11 Scandland, R. O. Roy 27 50
15-19-11 Scandland, R. O. Roy 30 75
10-19-11 Bliss & Weatherbee, Standard Oil Co. 4 6
10-19-11 Bliss & Weatherbee, Standard Oil Co. 9 10
27-19-11 Catlet, Webb et al 2 ..... dry

Wells completed 13
Production 391
Dry 1
Gas 0

CADDO

14-21-15 Robertshaw, Dixie Oil Co. 57.. 10
14-21-15 Robertshaw, Dixie Oil Co. 18.. 7
23-21-15 Glassell et al, Haynes Oil Co. 1 dry
24-20-15 Youree-Randolph, Humble Oil & Ref. Co. 1 ..... dry
3-20-15 Green, St. Louis-Caddo Oil Co. 1 ..... dry

Wells completed 5
Production 17
Dry 3
Gas 0

LOUISIANA WILDCATS

BIENVILLE PARISH

31-15- 5 Hodges, Hodge-Hunt Lumber Co. 3 ..... dry

BOSSIER PARISH

38-23-11 Bolinger, Oil Field Gas Co. 1.. gas
18-16-11 Childress, Palmer-Davidson 1. gas
18-19-13 Vance, Perkins et al 1 ..... dry

LA SALLE PARISH

20-10-2e Urania, Urania Pet. Co. 2..... dry

MOREHOUSE PARISH

13-20-4e Perry, Cronin & McKenzie 2.. gas

OUACHITA PARISH

35-20- 4 Cole, Fortuna Oil Co. 1..... gas
31-19- 5 Collins, Hosterman et al 1.... gas
29-20- 5 Fee, Ladel et al 17 ..... gas
29-20- 5 Fee, Ladel et al 18 ..... gas
28-19- 5 Fee, Peerless Carbon Co. 2.... gas
29-19- 5 Gibbs, The Texas Co. 3..... gas
4-19- 5 Fee, The Texas Co. 3 ..... gas
4-18- 5 West Va., West Virginia Oil & Gas Co. 2 ..... gas
12-19- 4 Kerr, United Oil & Prod. Co. 1 gas

RED RIVER PARISH

7-14-20 Welch, Caldwell et al 1 ..... dry

SABINE PARISH

7- 7-12 Bowman Hicks, Brown et al 1 dry
16- 7-12 Bowman Hicks, Brown et al 7 dry

UNION PARISH

30-19-1e Hamilton, Empire Gas & Fuel Co. 1 ..... dry
29-21-4e Union Sawmill, Union Power Co. A-5 ..... gas
29-21-4e Union Sawmill, Union Power Co. A-6 ..... gas
17-23-2e Clarke, Woodard & Clark 1... dry

WEBSTER PARISH

34-23-10 Martin, Ohio Oil Co. 1 ..... gas

Wells completed 23
Dry 8
Gas 15
Gas production 242,500,000

ARKANSAS WILDCATS

CLARK COUNTY

15- 8-22 Wilson, American Drilling Co. 1 ..... dry

DREW COUNTY

10-12- 7 Wilson, Monticello Ridge Oil Co. 1 ..... dry

NEVADA COUNTY

10-14-21 Womack, Smitherman & McDonald 1 125
13-14-22 Martin, B., Steele & Sandlin 1. dry
14-13-20 Blakely, Transcontinental Oil Co. 1 ..... dry

Wells completed 5
Production 125
Dry 4
Gas 0

SMACKOVER DISTRICT

UNION COUNTY

Rigs

15-16-15 Wells, Clark & Melatt 3.
17-16-15 Harrell, Delukie et al 3.
25-16-16 Burton, Dickson et al 2.
18-17-14 Polk & Ezell, Donoway Oil Co. 3.
1-16-17 McGraw, Estes et al 2, 3.
7-17-14 Tufts, Finn & Ball 1.
8-16-16 L. Werner, Gulf Ref. Co. 4.
7-17-14 Stevens, Hudson-Brooks 1.
20-16-15 R. J. Hicks, Humphreys Pet. Co. 2.
9-17-16 Dumas, Hurst et al 1.
7-16-15 T. G. Murphy, Imperial Oil & Gas Co. 1.
4-16-15 Hays, Lyon Oil & Ref. Co. 1.
18-16-15 G. F. Murphy, Lyon Oil & Ref. Co. 2, 3.
8-16-15 J. T. Murphy, Lyon Oil & Ref. Co. 1, 2.
1-16-17 Neely, Magnolia Pet. Co. 2.
3-16-15 Lyell, McFarland & Finck 3.
16-18-15 McRea, McPherson Oil Co. 3.
12-17-15 Polk & Ezell, H. I. Morgan 2.
5-16-15 Flenniken, Morris Drilling Co. 7.
7-16-15 Lawton, Murphy, Trustee 1.
8-16-15 Ferguson, Parish et al 2.
18-16-15 G. F. Murphy, Ramage et al 1.
21-16-15 G. F. Murphy, Ramage et al 2.
7-17-14 Stevens, Russell et al 1.
11-16-15 Alphin, Standard Oil Co. 1.
6-16-15 McClanahan, Standard Oil Co. 10.
7-17-14 Tufts, Steen et al 1.
7-17-14 Tufts, Stock et al 1.
3-16-15 Hays, Sun Co. 7.
3-16-15 Lyell, Wells et al 2.

Wells Drilling

8-16-15 Ferguson, Arkansas Nat. Gas Co. 3.
21-16-15 Murphy, Bement et al 3.
19-17-14 Crangton, Big Four Oil Co. 2.
17-18-15 Burns, Browder et al 1.
7-18-15 A. Hinson, Constantin Oil & Ref. Co. S-3.
8-16-16 Childs, Corby Synd. 1.
17-16-15 Harrell, Crosby, Trustee, 3.
17-17-14 Moody, Detroit Summerfield 9.
1-16-17 McGraw, Estes et al 1.
22-16-15 W. H. Murphy, Federal Pet. Co. 4.
28-16-16 Mullins, Forest Oil Co. 3.
18-18-15 Young, George & Jones 3.
21-16-15 Jameson, Gulf Ref. Co. 1, 2.
6-16-15 James, Gulf Ref. Co. 5.
16-16-15 LeCroy, Gulf Ref. Co. 1.
8-16-15 G. E. Murphy, Gulf Ref. Co. 4.
7-16-15 T. D. Murphy, Gulf Ref. Co. 1.
21-16-15 Jameson, Higgins Oil & Fuel Co. 4.
7-16-15 Murphy, Hodges et al 2.
21-16-15 Ballard, Houston Oil Co. 1.
15-16-15 Gillier, Humble Oil & Ref. Co. A-23.
14-16-15 E. G. Murphy, Humble Oil & Ref. Co. 5.
3-16-15 F. Murphy, Humble Oil & Ref. Co. 2.
21-16-15 Hays, Humphreys Oil Co. 1.
20-16-15 Hicks, Humphreys Pet. Co. 1.
3-16-15 Graves, Lyon Oil & Ref. Co. 4.
10-16-15 Lawton, Lyon Oil & Ref. Co. 4.
8-16-15 G. E. Murphy, Lyon Oil & Ref. Co. 2.
3-19-15 Cullins, Lumis et al 3.
8-16-16 Fagg, Magnolia Petroleum Co. 1.
17-16-15 Murphy, McPherson Oil Co. 1.
7-17-14 Stevens, Mercury Oil Co. 1.
10-19-15 Rogers, Montgomery et al 1.
33-18-15 Cates, Morefield et al 1.
5-16-15 Flenniken, Morris Drilling Co. 1.
8-16-15 G. E. Murphy, Natural Gas & Pet. Co. 2.
17-16-16 Childs, Nelson et al 1.
15-16-15 Wells, Noe et al 2.
8-16-15 T. D. Murphy, Olvey et al 2.
18-17-14 Polk & Ezell, Olvey et al 3.
4-16-16 Saxon, Pan-American Oil Co. A-4.
28-16-15 Goodwin, Pherris et al 1.
11-16-15 Giller, Phillips Pet. Co. 4.
7-16-15 Tatum, Plateau Oil Co. 1.
15-16-15 Craig, Pure Oil Co. 4.
7-16-15 Tatum, Ray et al 1.
10-16-15 Lawton, Sam Richardson 2.
15-17-16 Dumas, Rooker et al 1.
14-16-15 Murphy, Smackover Pet. Co. 2, 3.
11-16-15 Alphin, Standard Oil Co. 10.
22-16-15 Lingelbach, Standard Oil Co. 2, 4.
6-16-15 McClanahan, Standard Oil Co. 3.
5-16-16 C. L. Saxon, Standard Oil Co. B-2
16-18-13 Norman, Strong Oil Corp. 1.
17-16-15 Smith, Tharpe et al 1.
21-16-15 Cook, The Texas Co. 2.
17-16-15 Vestal, Tidal Osage Oil Co. 3.
7-17-14 Lyon, Vag Oil Co. 1.
10-16-15 Lawton, Vaughn & Gray 2, 3.
6-16-15 McClanahan, Vitek Oil Co. 3.

Shut Down

34-17-12 Clark, Bonderant et al 1.
3-18-12 Stegell, Bonderant et al 1.
9-18-12 Tuberville, Bonderant et al 1.
13-16-15 Giller, Crawford & Sebastian 2.
25-16-16 Burton, Dickson et al 1.
22-16-16 Goodwin, Dillon et al 1.
33-18-14 Robinson, Garrett et al 1.
29-15-16 Solmson, Gulf Ref. Co. 1.
32-15-16 L. Werner, Gulf Ref. Co. 13.
11-19-12 Teele, Harrell et al 1.
23-16-15 Clawson, Haveland Oil Co.
15-16-16 Epps, R. C. Houston 1.
34-16-14 Mathews, Isola Oil Co. 1.
8-16-18 Goff, John Knox 1.
13-16-17 Campbell, Magnolia Petroleum Co. 2.
23-16-15 Helmes, Page et al 1.
4-16-16 C. L. Saxon, Pan-American Oil Co. B-1, B-2.
14-17-15 Sloan, Quaker City Pet. Co. 1.
28-16-14 Long, Ray et al 1.
30-16-15 Burton, Rica Oil Co. 1.
3-19-15 Cabiress, Richardson et al 1.
23-16-15 E. G. Murphy, Sam Richardson 1, 2.
5-16-16 Saxon, Smitherman-McDonald 3.
21-19-12 Little, Starke et al 1.
6-16-14 Beam, Woodley Pet. Co. 1.
32-15-16 Saxon, Worthan & Orr 1.
Rigs, 33; wells drilling, 92; total, 125.

SMACKOVER DISTRICT

OUACHITA COUNTY

Rigs

34-15-15 Snyder, Arkansas Nat. Gas Co. 4.
4-12-18 Doc Bedford, Block Oil & Gas Co. 1.
25-15-17 Lagrone, Burch-Walker 3.
34-15-15 T. C. Joyce, Dashko et al 1.
10-12-19 Purifoy, Foster and Sandford 1.
30-15-16 Harrison, Gulf Ref. Co. 3, 4.
36-15-17 Werner, Gulf Ref. Co. A-2.
25-15-17 Smith, Harris et al 1.
31-15-16 Patton, Houston Oil Co. 2.
29-15-16 Solmson, Dr. Johnston 1.
29-15-16 McElroy, Johnson et al 2.
25-15-17 Wells, Johnson Drilling Co. 2.
29-15-16 Solmson, Lanier et al 1.
24-15-17 Fee, Mangus Oil Co. 4.
34-15-15 Snyder, Murphy, Trustee, 2.
30-15-16 Myer Estate, Smith Ref. Co. 1.
31-15-16 Patton, Smith Ref. Co. 6.
32-15-15 Umsted, Standard Oil Co. 5.
24-15-17 Berry, Sun Co. 1.
34-15-15 Joyce, Sure Oil Co. 2.
30-15-16 F. L. Chandler, Texas Co. 1.

Wells Drilling

9-13-19 Lester Mill Co., American Pet. Corp 1.
26-15-17 J. E. Anderson, Harry Anderson et al 1.
31-15-16 Patton, Arkansas Nat. Gas Co. 4.
29-15-16 Rowland, Atlantic Oil Prod. Co. 2.
19-15-16 Cade, Bailey et al 1.
32-15-16 T. C. Patton, Bashara et al 2.
32-11-19 Harvey, Broderick and Calvert 1.
28-15-16 Hughes, Burton, Trustee, 6.
24-15-17 Berry, Dr. Clark et al 2.
30-15-16 Shirey, El Dorado Union Oil Co. 4.
22-15-16 C. E. Cramer, Forest Oil Co. 8.
29-15-16 Minor, Forest Oil Co. 2.
27-15-16 Mullins, Forest Oil Co. 11.
28-15-16 Hughes, Galloway et al 1.
30-15-16 Harrison, Gulf Ref. Co. 1, 2.
19-15-16 Meek, Gulf Ref. Co. 2.
29-15-16 Solmson, Gulf Ref. Co. 3.
29-15-16 Stringfellow, Gulf Ref. Co. 2.
33-15-15 Umsted, Gulf Ref. Co. A-4.
25-15-17 Ward, Hale et al 2.
24-15-17 Elliot, Howe et al 1.
31-15-16 Patton, Houston Oil Co. 3.
34-15-15 Ferris, Humble Oil & Ref. Co. 1
31-15-15 F. A. & B. T. Laney, Humble Oil & Ref. Co. 3.
21-15-16 Hughes, Johnson et al 1.
32-15-16 Patton, Lanier et al 1.
24-15-17 Berry, Lewis & Clark 5.
32-15-16 Patton, Magnolia Pet. Co. 4.
31-15-16 Smith, Magnolia Pet. Co. 4.
24-15-17 Fee, Mangus Oil Co. 1.
27-15-16 Mullins, McFann et al 1.
30-15-16 Fee, Myer et al 2.
25-15-16 Cunningham, Newton et al 2.
36-15-16 McKenzie, Oilfield Corp. 2.
5-16-15 Umsted, Olvey et al 1.
27-15-16 Mullins, Peer Oil Co. 1.
27-15-16 Hardin, Penguin Oil Co. 2.
25-12-16 Eagle Mills Co., Walter Pafler 1.
33-15-15 Hearnsberger, Phillips Pet. Co. 1.
10-11-16 Henry, Riley et al 1.
30-15-16 Fee, Smith Ref. Co. 5.
31-15-16 Patton, Smith Ref. Co. 4, 5.
29-15-16 Taylor, Snowden & McSweeney 1.
30-15-16 Fee, Solmson et al 2.
29-15-16 Solmson, Standard Oil Co. 4.
32-15-16 Umsted, Standard Oil Co. 11.
36-15-17 Smith, Staple et al 2.
31-15-16 Patton, Sun Co. 3.
17-15-16 Turberville, Tennessee Oil & Gas Co. 1.
30-15-16 Lagrone, Texas Co. 1.
29-15-16 Solmson, Texas Co. A-4.
32-15-16 Solmson, Texas Co. B-2.
31-15-16 Smith, Texas Co. 1.
24-15-17 Mangus, Walker et al 1.
32-15-16 Fincher, Winefield et al 1.

Shut Down

30-13-18 Smith, Berry et al 1.
25-15-16 Robertson, Bradstreet et al 2.
20-14-16 Halford, Bray-Hawthorne 1.
30-15-17 Ferris Burton, Jimmie Cox 1, 2.
27-15-16 Hicks, El Dorado Gas Co. 1.
22-15-17 Riley, Hammon et al 1.
5-16-15 Hill, Invaders Oil Co. 1.
31-13-16 Hargais, Marr Drilling Co. 1.
19-15-16 Bryant, Frank Masters 1.
36-15-16 Horton, Metric Oil Co. 3.
27-15-16 Mullins, Morris Drilling Co. 2.
27-15-16 Hardin, Penguin Oil Co. 2.
21-11-17 Moline Timber Co., Pure Oil Co. 1.
29-15-16 Shirley-Berg, Bob Simmons 1.
32-15-17 Moon, Smackover Creek Oil Co. 1.
8-14-12 Graves, Smackover Pet. Co. 1.
1-16-15 McDonald, Thompson et al 2.
5-16-15 Goodwin, Wilson Pet. Co. 1.
2-12-18 Garnett, Woods et al 1.
Rigs, 22; wells drilling, 77; total, 99.

STEPHENS FIELD

COLUMBIA COUNTY

Rigs

23-14-20 Jackson, Arkansas Osage Oil Corp. 3.
14-15-20 Murphy, Atlantic Oil Prod. Co. 1.
24-15-20 Buffington, Pete Hoffman 3.
18-17-22 Sorrels, Johnson et al 1.
13-15-20 Adkins, Shaffer Oil & Ref. Co. S-1.

Wells Drilling

25-15-20 Webfer, Atlantic Oil Prod. Co. A-1.
13-17-22 Ray-Fullen-oiler, Dowler et al 1.
13-15-20 Smart, Hickman et al 2.
24-15-20 Buffington, Pete Hoffman 2.
25-15-20 Hammond, Magnolia Pet. Co. 3.
23-15-20 Milner, Wingfield et al 4.

Shut Down

23-18-20 Robinson, Brown et al 1.
12-18-21 Davis, Guy Cox 1.
14-18-20 Russ, Jimmie Cox 1.
3-16-21 Fullenwcider, De Soto Hickman 1.
20-19-18 Haynes, Hosey McDonald 1.
20-16-18 Watts, Miller et al 1.
35-18-19 Duffer, Smith & Compton 1.
Rigs, 5; wells drilling, 13; total, 18.

OUACHITA COUNTY AREA

Rigs

18-15-19 Burris, North Central Texas Oil Co. 1, 2.
19-15-19 Curry, Ohio Oil Co. 1.
30-15-19 Weaver, Standard Oil Co. 4.

Wells Drilling

30-15-19 John Webfer, Atlantic Oil Prod. Co. 4.

Shut Down

23-14-19 Allen, Hopkins, Trustee, 1.
23-15-19 Wesson, Leeper, Trustee, 1.
Rigs, 4; wells drilling, 3; total, 7.

BELLEVUE FIELD

Rigs

15-19-11 Fee, Louisiana Oil Ref. Corp. D-11.
23-19-11 Strange, Olmstead et al A-13.

Shut Down

15-19-11 Roy Bliss & Weatherbee, Humble Oil & Ref. Co. 1.

27-19-11 Catlet, Pope et al 1.
Rigs, 2; shut down, 3; total, 4.

CADDO PARISH

Rigs

10-19-15 Nickerson, Aaatson et al 1.

Wells Drilling

4-21-15 Barlow, Alabama Pet. Co. 1.
15-18-16 Sharp, Brewer Sewell 1.
4-16-15 Gardner & Blades, Caddo Western Oil Co. 1.
27-16-14 Alexander & Ledbetter, Crude Oil Co. 1.
16-21-15 Robertshaw, Dixie Oil Co. 58.
25-21-15 Herndon, Fortuna Oil Co. 12.
24-20-15 Youree Randolph, Humble Oil & Ref. Co. 1.
15-23-16 Brewer, Louisiana Pet. Co. Inc. 1.
11-21-15 Brown Fee, Muslow Oil Co. 1.

Shut Down

11-16-14 Mitchell, Mitchell Oil Co. 1.
Rigs, 1; wells drilling, 11; total, 12.

CLAIBORNE PARISH

Rigs

25-19- 5 Fields, Forest Oil Co. 1.
25-23- 8 Sherman, Ohio Oil Co. 15.
1-23- 9 Whaley, Ohio Oil Co. 1.

Wells Drilling

25-23- 8 Crump, Ohio Oil Co. 1.
20-21- 7 Shaw, Standard Oil Co. 25.

Shut Down

17-23- 5 Reinach, Triangle Drill Co. 1.
Rigs, 3; wells drilling, 3; total, 6.

DE SOTO PARISH

Rigs

15-12-13 Poter, C. R. Tyrell 2.

Wells Drilling

1-11-15 Frost Johnson, Ulrey et al 1.
15-12-13 Poter, C. R. Tyrell 1.
Rigs, 1; wells drilling, 2; total, 3.

RED RIVER PARISH

Shut Down

11-13-10 Marston, Coushatta Synd. 1.
10-13-11 Armistead, Fortuna Oil Co. 16.

LOUISIANA WILDCATS

Rigs

13-16-12 Hodges, Davis & Burch 1.
13-16-12 Freeman, Hoover et al 1.
13-16-12 Caplis, Palmer & Davidson 1.
16-18- 7 Durett, Smith et al 1.
13-16-6e Fee, Culver et al 1.
21-11-3e Urania, Helm & Burch 1.
15-20-7w Colvin, Helm & Egger 1.
25-20-5e Fee, Ladel et al 22.
1-16-5e Chess Wymond, Transcontinental Oil & Gas Co. 2.
1-19-4e Fairbanks, Southern Carbon Co. 6.
4-18-5e Fee, West Virginia Land & Timber Co. 3.
23-21-3w Heard, Cargile et al 1.
7-19-1e Hodge, Dawson & Perrott 1.
16-22-3e Cole, Evans et al 1.
23-21-1w Security Trust, Gulf Ref. Co. 1.
10-23-1e Adkins, Ohio Oil Co. 1.
10-21-1w Payne, Tarver et al 1.
21-23-11 Baucher, Smitherman-McDonald 1.
15-21-10 Hodges, Snyder et al 2.
14-21-10 Merritt, Triangle Drilling Co. 1.
11-23- 9 Gleason, White Oil Corp 1.

Wells Drilling

19-18- 6 Bodcaw Lumber Co., Ohio Oil Co. 1.
4-18- 5 Harrell, Arkansas Fuel Oil Co. 1.
4-20-1w McKay, Middle Fork Synd. 1.
19-20-5e Southern, Amalgamated Oil Co. 1.
24-20-5e Irwin, Carson Carbon Co. 1.
12-20-5e Fee, Udell et al 16.
15-20-5e Rogers, Morris, Trustee, 1.
13-19-6e Chess Wymond, Richland Oil & Gas Co. 1.
17-20-5e Spyker, Southern Carbon Co. 11.
1-18-5e Chess Wymond, Transcontinental Oil & Gas Co. 2.
1-18-5e West Virginia Timber Co., Atlas Oil Co. 2.
13-19-5e Riche, Consumers Gas Co. 3.
1-18-5e Fee, J. M. Huber 4.
13-20-5e Fee, Magnolia Pet. Co. 2.
17-19-5e Fee, Southern Carbon Co. 25, 26.
13-19-5e Puckett, Standard Carbon Co. 2.
13-23-1e Templeton, Ark. Nat. Gas Co. 1.
13-23-1e Green, Gulf Ref. Co. 1.
1-23-2w Smith, Neddo Petroleum Invincible Corp. 1.
11-21-1e Culley, James A. Noe et al 1.
13-20-1w Dubach Lumber Co., Ohio Oil Co. 1.
16-22-2w Smith, Roxana Pet. Corp. 1.
13-21-4e Union Sawmill, Union Power Co. A-7, A-8.
17-21- 9 Pruitt, Fortuna Oil Co. 1.
21-23-10 Stratton, Fortuna Oil Co. 1.
24-21- 9 Doles, O'Brien et al 1.
16-17- 6 Woodard & Walker, Standard Oil Co. 1.

Shut Down

9-22-12 Bolinger, Atlas Drilling Co. 1.
16-16-12 Simpson, Davis & Burch 3.
21-17-12 Fee, Skannell et al 1.
13-16-11 Jones, Sneed et al 1.
15-22-14 Bolinger, Tarver Brothers Petroleum Co. 1.
4-18-11 McGuffin, Zinc et al 1.
10-19-2e Urania, Urania Pet. Co. 3.
16-20-2w Colvin, Four Creek Oil Co. 1.
25-20-5e Odon, Consolidated Oil Co. 1.
16-20- 5 Perry, McKenzie et al 1.
14-17-3e Dixie Lumber Co., Haynes et al 2.
13-20-4e Fairbanks, Southern Carbon Co. 6.
20-19-5e Gibbs, The Texas Co. 4.
7-20-7e McMinn, Zeigen et al 1.
13-23-1e Green, Davidson & Palmer 1.
17-23-1e Clark, Union Power Drilling Co. 3.
13-21-10 Hope Estate, Oil Field Gas Co. 1.
21-21-10 Miller, Palmer Corp. 1.
4-18-10 Anders, Palmer & Blunt 1.
Rigs, 21; wells drilling, 48; total, 69.

ARKANSAS WILDCATS

CALHOUN COUNTY

Wells Drilling

13-12-12 Adams, Sure Oil Co. 1.

Shut Down

16-11-13 Hearnsberger, Calhoun Oil & Gas Co. 1.
11-16-13 Freeman Smith Lumber Co., Harris & Bickle 1.

CLARK COUNTY

Rigs

31- 7-20 Wright, Rushville, Trust, 1.
8- 9-20 Clark, Vitek Oil Co. 1.

Shut Down

20- 5-23 Langsford, United Pet. Corp. 1.

CLEVELAND COUNTY

Rigs

12- 8-12 Wilson, Clark & Melat 1.

Shut Down

18-11-11 Word, Stark & O'Mara 1.

DALLAS COUNTY

Shut Down

33- 8-15 Matlock & Higgs, Conway et al 1
5-10-16 Taylor, Stahl et al 1.

DREW COUNTY

Wells Drilling

10-13- 6 Karnes, Graves et al 1.
27-12- 8 Martin, W. H. Rhodes et al 1.

Shut Down

22-11- 7 Graves, Monticello Ridge Oil Co. 1
23-13-16 Fee, Stenke et al 1.

GRANT COUNTY

Rigs

22- 7-12 Taylor, Clark & Melat 1.

Wells Drilling

26- 5-12 Prague, Parr Oil Co. 1.
14-6s-13w Chicago Land & Timber Co., The Texas Co. 1.

Shut Down

15- 5-12 Steupke, Parr Oil Co. 2.
31- 4-11 Britch, Parr Oil Co. 1.

HEMPSTEAD COUNTY

Rigs

9-11-26 Haffke, Columbus-Hope Oil Co. 1.

Wells Drilling

24-11-25 King, Columbus-Hope Oil Co. 2.
12-13-27 State, Johnson et al 1.
17-11-25 Nichols, Myers et al 1.
36-12-27 Adams, G. W. Simmons, Trustee 1.

Shut Down

33-11-26 Ellen, Hackathorne et al 1.
17-12-23 Yates, Orr et al 1.

LAFAYETTE COUNTY

Wells Drilling

16-15-24 Osborn, Lewisville Synd. 1.
21-19-23 Hughes, L. K. Wilburn et al 1.

Shut Down

34-19-24 Red River Land Co., Kensaw Petroleum Co. 1.
25-17-24 Renick, Wilcox et al 1.

LITTLE RIVER COUNTY

Shut Down

15-13-29 Goodwin Timber Co., Gaines et al 1.
2-14-31 Allen, Grote et al 1.
10-11-31 Hawkins, Johnson et al 1.
29-13-20 Toland Taylor, Red River Valley Oil Co. 1.
32-11-32 Ludlow, Sullivan Oil & Gas Co. 2

MILLER COUNTY

Rigs

22-14-28 Gillespie, Munn Oil & Gas Co. 1.

Shut Down

22-15-25 Mann Land & Dev. Co., Central Coast Oil Co. 1.
8-14-27 Adams, Cochran & Ray 1.
33-14-28 Thompson, Kingsley et al 1.

NEVADA COUNTY

Rigs

15-14-21 Blake, Ames et al 1.
36-10-23 McCain, Arkrado Oil Co. 1.
11-13-21 White, Kenark Oil Co. 1.

Wells Drilling

10-12-20 Henry, Prescott Oil Co. 1.
11-14-21 Wallace, Smitherman & McDonald 1.
16-14-21 Butcher, Steele & Sandin 1.

Shut Down

12-15-22 C. D. Perry, Burnham et al 1.
31-13-21 Berley, Carter et al 1.
11-12-23 Eaves, Edwards & Anderson 1.
13-13-22 East, Wilson & Oglesby et al 1.
1-10-23 Suckle, Wiseman et al 1.
8-13-20 Moore & Martin, Wooten et al 1.
Rigs, 9; wells drilling, 42; total, 51.

GULF COAST

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Batson	1	15	0	0	2	1	3
Big Creek...	0	0	0	0	1	3	4
Blue Ridge..	0	0	0	0	1	2	3
Damon Md..	2	0	2	0	1	3	4
Edgerly, La.	1	75	0	0	0	2	2
Goose Creek	6	835	1	0	3	10	13
Humble	3	20	1	0	0	5	5
Hull	9	3,650	2	0	5	17	22
Jennings, La	0	0	0	0	0	3	3
Markham ..	1	0	0	1	0	3	3
[illegible] ...	9	2,655	3	0	5	21	26
Pierce Jct..	0	0	0	0	0	2	2
Saratoga ...	1	0	1	0	0	2	2
Sour Lake ...	2	1,200	0	0	2	2	4
Somerset ...	0	0	0	0	3	5	8
Vinton, La..	6	245	2	0	4	7	11
W. Columbia	4	425	1	0	0	1	1
Luling	8	6,300	0	0	5	17	22
[illegible] Dist.	8	400	1	3	3	7	10
Milam Co...	1	10	0	0	2	7	9
Live Oak-McMullen.	4	1,150	0	0	6	13	19
Miscellaneous	5	10	3	1	56	141	197
Total Jan.	71	16,990	17	5	99	274	373
Total Dec.	55	7,975	19	2	77	279	356
Difference.	16	9,015	2	3	22	5	17

WELLS COMPLETED

BATSON

Hooks, Duester Oil 1..... 15

Well completed 1
Production 15

DAMON MOUND

Smith, Humble Oil & Ref. 1..... abd
Jackson, Sinclair Oil & Gas 20..... sw

Wells completed 2
Abandoned and salt water 2

EDGERLY

Bright-Penn, Gulf Ref. 19 (wo)..... 75

Well completed 1
Production 75

GOOSE CREEK

Chapman-Bryan, Gulf. Prod. 6 350
Paddock, Gulf. Prod. 8 100
Beaumont, Gulf Prod. 27 200
Smith, Humble Oil & Ref. 83 150
Gillette, Newton & Gilcrest 4 (wo).... sw
Gilliard, Gulf Coast-Crown 31 (wo).... 25

Wells completed 6
Production 835
Salt water 1

HUMBLE

Hirsch, Martin et al 6 (wo)..... 10
Lee, Mineral Drg. Co. 1 ..... sw
Hirsch, Czersour & Martin 12 10

Wells completed 3
Production 20
Salt water 1

HULL

Hannah, Texas & Vacuum Cos. 1 (wo). 200
Harrison, Gulf Prod. 5 100
Thomas Fee, Gulf Prod. 4 (wo)..... 100
Taylor, Houston Prod. 7 ..... sw
Dolbear, Republic Prod. 26 (wo).....1500
Dolbear, Republic Prod. 43 (wo)..... 700
Dolbear, Republic Prod. 75 800
Merchant, Yount-Lee Oil 8 ..... sw
Republic, Higgins Fuel Co. 3 250

Wells completed 9
Production 3650
Salt water 2

MARKHAM

Hawk, Schulte Oil 1 ..... gas

Well completed 1
Gas 1

ORANGE

Winifree, Orange Pet. 5 (wo)..... 500
Berwick, Orange Pet. 3 (wo)..... 50
Chesson, Orange Pet. 4 (wo)..... sw
Chesson, Mutual Pet. 4 (wo) ..... sw
Chesson, Gulf Prod. 4 (wo)..... sw
Hager Fee, Gulf Prod. 14 1200
Winifree, Gulf Prod. 1 (wo)..... sw
Pevito, Gulf Prod. 3 (dpnd)..... abd
McLain, Brownie Babbittee Oil 6..... 75

Wells completed 9
Production 2655
Abandoned and salt water 3

SARATOGA

Lewis, Paggi Bros. Oil 3 ..... sw

Well completed and salt water.... 1

SOUR LAKE

Fee, The Texas Co. 268 (wo).....1000
Fee, The Texas Co. 233 (wo)..... 200

Wells completed 2
Production 1200

VINTON (LA.)

Rescue, Vinton Pet. 12 65
Star, Gulf Ref. 30 5
Tillery, Edgerly Pet. 1 ..... abd
Gray, Gulf Ref. 2 ..... abd
Vincent, Gulf Ref. 23 75
Vincent, Gulf Coast Oil 7 100

Wells completed 6
Production 245
Abandoned 2

WEST COLUMBIA

Hogg, The Texas Co. 52 (wo)..... 300
Williamson, Aeax Oil 2 (wo)..... sw
Smith, Humble Oil & Ref. 1 50
Abrams, The Texas Co. 1 (wo)..... 75

Wells completed 4
Production 425
Salt water 1

MILAM COUNTY

Branch, Jennings & Co. 1 10

LULING

Moore, Jarmon Oil 2 400
Merriweather, Towns Prod. 4 1200
Merriweather, Towns Prod. 5 1200
C. Byrd, Magnolia Pet. 3 500
N. Byrd, Magnolia Pet. 3..... 500
Stair, United North & South Oil 1 500
Rios, United North & South Oil 7 1000
Proctor, United North & South 1 1000

Wells completed 8
Production 6300

LAREDO DISTRICTS

Bruni, Cole Pet. 4 ..... gas
Puig, Clark & Howard 1 75
Ochoa, Chandler & Gear 1 100
Barnsley, Carolina-Texas Oil 4 ..... gas
——, Noreth Oil 3 ..... gas
Schott, Carnahan Oil 9 (dpnd)..... dry
——, Neuvo Oil 2 125
——, Black Panther Oil 1 100

Wells completed 8
Production 400
Gas 3
Dry 1

MISCELLANEOUS

BEXAR COUNTY

Gas Ridge, Alamo Gas Co. 2 ..... gas

CHAMBERS COUNTY

Adams, Houston Oil 1 ..... abd

GALVESTON COUNTY

High Island, Guidry, Sun Co. 4..... abd
High Island, Great Western Oil 3..... 10

LIVE OAK COUNTY

Calliham district, Everett, No. 1 Stits.. 50
Calliham district, San Balt Oil 1 500
Calliham district, San Balt Oil 2 500
Calliham district, Head et al 1 100

CAMERON PARISH (LA.)

McManus, Johnson Bayou Prosp. Co. 1 abd

Wells completed 9
Total production 1160
Gas 1
Abandoned 3

RIGS AND DRILLING WELLS

BATSON

Rigs

Milhome, S. R. Buchanan 74.
Hooks, Sun Co. 1.

Wells Drilling

Wing, Gulf Prod. 155
Rigs, 2; wells drilling, 1; total, 3.

BIG CREEK

Rigs

Davis, Gulf Prod. 10.

Wells Drilling

Davis, Gulf Prod. 9.
Wheat, Gulf Prod. 6.
Ahlers, Rich et al 1 sd.
Rigs, 1; wells drilling, 3; total, 4.

BLUE RIDGE

Rigs

Blakely, Gulf Prod. 9-C.

Wells Drilling

Weems, Mutual Oil 1.
Robinson, The Texas Co. 11.
Rigs, 1; wells drilling, 2; total, 3.

DAMON MOUND

Rigs

Smith, Humble Oil & Ref. 2.

Wells Drilling

Mock, Sinclair Oil & Gas 2.
Becker, Sinclair Oil & Gas 8 (dpng.)
Masterson, Sinclair Oil & Gas 1.
Rigs, 1; wells drilling, 3; total, 4.

EDGERLY

Wells Drilling

Bright-Penn, Gulf Prod. 32 (dpng.)
Hunter, Calcasieu Pet. 1 (dpng.)
Wells drilling, 2.

GOOSE CREEK

Rigs

Hogg Island, Humble Oil & Ref. 1.
Paddock, Gulf Prod. 10.
Tabb Fee, Gulf Prod. 12.

Wells Drilling

Beaumont, Gulf Prod. 28.
H. Galliard, Gulf Prod. 3-A.
Paddock, Gulf Prod. 9.
Hirsch, Gulf Prod. 2.
Tabb, Humble Oil & Ref. 10.
Galliard, Humble Oil & Ref. 24, 36.
Smith, Humble Oil & Ref. 54.
Harrell, Humble Oil & Ref. 2.
B. Smith, Sun Co. 16.
Rigs, 3; wells drilling, 10; total, 13.

HUMBLE

Wells Drilling

Landslide, Burley Oil 26, 31 sd.
Hermann, Martin et al 8.
Rosenthal, Thayer Bros. 1.
Hirsch, Martin & Czerseaux 12.
Wells drilling, 5.

HULL

Rigs

Lynd, Empire Gas & Fuel 3.
Phoenix, Gulf Prod. 37.
Merchant, Humble Oil & Ref. 9.
Dolbear, Republic Prod. 77.
Merchant, Higgins Oil & Fuel 7 (wo).

Wells Drilling

Phoenix, Gulf Prod. 9 (wo) 36.
Hannah Fee, Gulf Prod. 12.
Scarborough, Gulf Prod. 11.
Sterling, Humble Oil & Ref. 1.
Taylor, Humble Oil & Ref. 2.
Hankamer, Humble Oil & Ref. 9 (dpng.)
Merchant, Humble Oil & Ref. 2 (wo.)
Pevito, Link Oil Co. 2 (wo.)
Miller, Monarch Oil & Ref. 2, 3.
Dolbear, Republic Prod. 30 (wo), 74, 76.
Taylor, Yount-Lee Oil 4, 5.
Merchant, Yount-Lee Oil 8 (wo.)
Carr, The Sun Co. 9 (dpng.)
Rigs, 5; wells drilling, 17; total, 22.

JENINGS

Wells Drilling

Latrielle, Hines et al 3 (wo.)
Latrielle, The Texas Co. 39 (wo.)
Latrielle, Rycade Oil 2.
Wells drilling, 3.

MARKHAM

Wells Drilling

Gray, Rycade Oil 1.
Hudson, Rycade Oil 2.
Hawk, Schulte Oil 1, sd.
Wells drilling, 3.

ORANGE

Rigs

Williams, McClain et al 1.
McLain, Brownie Babbittee Oil 4 (wo.)
State Land, Rycade Oil 1, 2-D.
Pevito, Gulf Prod. 4 (wo.)
Hager Fee, Gulf Prod. 12.

Wells Drilling

Winifree, Gulf Prod. 1-A (dpng.)
Hammam, Gulf Prod. 1.
Winifree, Gulf Prod. 8.
Pevito, Gulf Prod. 5.
Kishi-Lang, Gulf Prod. 6-A.
Hager, Gulf Prod. 13.
Moore, Atlantic Oil Producing 1 (dpng.)
Granger, Sinclair Oil & Gas 6 (dpng.)
Jackson, Supreme Oil 1 (dpng.)
Aronson, Pilot Oil 1.
Brown, The Sun Co. 2, 4.
Kato, The Sun Co. 1.
Chesson, Orange Pet. 2.
Chesson, Mutual Oil 8.
Chesson, Humble Oil & Ref. 18-B, 20-B.
Winifree, Humble Oil & Ref. 5.
Winifree, Amn. National Oil 1.
Brown, Brownie Babbittee Oil 1.
Gum Island, Orange Prod. 1, sd.
Rigs, 5; wells drilling, 21; total, 26.

PIERCE JUNCTION

Wells Drilling

Ritter, The Sun Co. 1.
Whitehead, The Sun Oil 1, sd.
Wells drilling, 2.

SPINDLETOP

Wells Drilling

McFadden, Rycade Oil 2.
Chaisson, Selma Oil 2.
Rowe, Sheffield-Teichaw 1.
Wells drilling, 3.

SARATOGA

Wells Drilling

——, Rio Bravo Oil 83-B.
Lewis, Paggi Bros. Oil 3 (wo.)
Wells drilling, 2.

SOUR LAKE

Rigs

Minor, Lake View Oil 3.
Hardin, Gulf Prod. 57.

Wells Drilling

Lynn, Star Oil 1.
Fee, Gilbert Oil 56.
Rigs, 2; drilling, 2; total, 4.

SOMERSET

Rigs

Kilborn, Idaho Oil 4.
Langley, Witherspoon Oil 2.
Smith, Helvetia Copper 9.

Wells Drilling

Smith, Helvetia Copper 6, 8.
Ernst, Grayburg Oil 27.
Kurz, Somerset Oil 20.

Foster, Frontier Oil 1.
Rigs, 3; wells drilling, 5; total, 8.

VINTON (La.)

Rigs

Vincent, Gulf Ref. 31.
Gray, Vinton Pet. 44.
Parks, Wilson-Broach Co. 3.
G. N. G., Gulf Ref. 26.

Wells Drilling

Johnson, The Sun Co. 2.
Vincent, Edgerly Pet. 2.
Gray, Marrs McLean 5, (dpng.)
Lyons, Just Oil & Ref. 2.
Green, Seiss Syndicate 8.
Harmony, Vinton Pet. 12.
Vincent, The Texas Co. 3.
Rigs, 4; wells drilling, 7; total, 11.

WEST COLUMBIA

Wells Drilling

Hogg, The Texas Co. 13 (wo.)
Well drilling, 1.

LULING

Rigs

Tabor, M. O. Rayor 2.
Martin, Tyndell & Killough 1.
Allen, Guadalupe County, United North & South 1.
Allen, Guadalupe County Grayburg Oil 1.
Allen, Guadalupe County, J. K. Hughes Co. 1.

Wells Drilling

Dunlap, Armstrong et al 1 sd.
Merriweather, Magnolia Pet. 6.
C. Byrd, Magnolia Pet. 4.
Hardeman, Sunland Oil 1 sd.
Merriweather, Yoakum-Shriner Oil 2 sd.
Walker, Big Gusher Oil 1 (dpng.)
Gray, Luling Prod. 1 (dpng.)
Proctor, Grayburg Oil 1, 2.
Proctor, United North & South Oil 2, 3, 4.
W. Mercer, United North & South Oil 3.
F. M. Mercer, United North & South Oil 2.
Tabor, United North & South Oil 6.
Gideon, United North & South Oil 2.
Blackwell, Grayburg Oil 1.
Rigs, 5; wells drilling, 17; total, 22.

LAREDO DISTRICTS

Rigs

Gonzales, Bailey & Co. 1.
Schott, Killiam et al 1.
Mirando, Andrews Pet. 1.

Wells Drilling

H. Gracia, R. F. Duggan 1.
Garcia, Black Panther 1.
Pratt, A. J. D. Co. 1.
Ojuias, Cin-Tex Oil 1.
Mid-Ojulas, Laurel Oil 5.
——, Shasta Oil 1.
Schott, Alberas et al 1.
Rigs, 3; wells drilling, 7; total, 10.

MILAM COUNTY

Rigs

Branch, C. H. Jennings 2.
Fee, Roundtree Oil 4.

Wells Drilling

Neihaus, Texas Pet. Dev. 7.
Fee, Phillips Bros. 2.
Batte, Texas Pet. Dev. 8.
Ashley, F. D. Tutle 1.
Rittig, Bartlett-Minerva Oil 1.
Beuer, Beverly Oil 1.
Sterisky, Freddie Palmer Oil 2 sd.
Rigs, 2; wells drilling, 7; total, 9.

LIVE OAK-McMULLEN COUNTIES

Rigs

——, San Balt Oil 3.
Frio River, Coyle-Concord Co. 1.
——, Plato Oil 1.
Cartwright, Houston Oil 4.
Callihan, Dullihan et al 1.
Brown, South Texas Oil 1.

Wells Drilling

Brown, C. H. Oichewske 1.
Callihan, Burt Oil 1.
Aycock, Lightfoot & Hill 1.
Barnes, Corpus Christi Oil 2.
Lark, Grubstake Investment 2, 3.
Shriner, Humphrey Oil 1.
Reagan, Lobo Oil 6.
Herring, Harkley Oil 1.
Stitz, Holliday et al 1.
Stitz, Laughter & Napier 1.
Stitz, W. E. Elliott 1.
Martin, Pioneer Consolidated Oil 1.
Rigs, 6; wells drilling, 13; total, 19.

WYOMING FIELDS

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy..	0	0	0	0	0	8	8
Salt Creek .	27	7,590	0	0	43	75	118
Lance Creek.	0	0	0	0	0	7	7
Warm Spgs., Grass Creek, etc.	1	250	0	0	6	24	30
Big Horn B.	1	30	0	0	4	20	24
Lost Soldier District ..	0	0	0	0	8	50	58
Rock River District ..	0	0	0	0	0	19	19
Fremont Co..	0	0	0	0	4	29	33
Mule Creek .	0	0	0	0	0	2	2
Osage	0	0	0	0	8	8	16
Natrona Co..	1	100	0	0	2	19	21
Lincoln and Uintah Cos	0	0	0	0	4	17	21
Baxter Basin	0	0	0	0	2	13	15
Miscellaneous	0	0	0	0	6	41	47
Total Jan.	30	7,970	0	0	87	332	419
Total Dec.	51	10,258	8	4	91	345	436
Difference.	21	2,288	8	4	4	13	17

MONTANA

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Cat Creek ..	0	0	0	0	1	22	23
Kevin Sun..	4	315	2	0	13	34	47
Miscellaneous	6	0	6	0	5	102	107
Total Jan.	10	315	8	0	19	158	177
Total Dec.	17	595	6	1	21	163	184
Difference.	7	280	2	1	2	5	7

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Miscellaneous	0	0	0	0	1	25	26
Total Jan.	0	0	0	0	1	25	26
Total Dec.	0	0	0	0	1	24	25
Difference.	0	0	0	0	0	1	1

BIG MUDDY

Wells Drilling

8-33-76 Humphreys, Mutual Oil 38.

Shut Down

2-33-76 Fenex, Mutual Oil 37.
15-33-76 Whiteside, Mutual Oil 37.
3-33-76 Crary, The Texas Co. 32.
4-32-77 Big Bear Oil.
23-33-76 Northstar Oil.
36-33-76 Pathfinder Oil.
Wells drilling, 7.

SALT CREEK

Rigs

12-39-79 Castle Rock 1, Ohio Oil 4.
12-39-79 E½, Ohio Oil 4, 8.
19-39-78 Tract E, Ohio Oil 1.
27-40-79 Columbia 2, Ohio Oil 1.
31-40-78 NE¼, Salt Creek Cons. 16-A, 28-A.
34-39-78 Mammoth Oil 205.
7-39-78 NW¼, Salt Creek Cons. 2-A.
33-39-78 SE¼, Mammoth Oil 405.
28-39-78 SE¼, Mammoth Oil 406.
5-39-78 SE¼, Western States O. and L. 21-A.
13-39-79 SE¼, Bessemer Oil 2-AX.
34-39-78 SW¼, Mammoth Oil 302.
13-39-79 SE¼, Blackstone Salt Creek F-4.
11-39-79 NE¼, Kasoming Oil B-4, B-6, B-7, B-11.
17-39-78 SE¼, Marine Oil 2.
2-39-79 SE¼, Sinclair Wyoming 7-A.
10-40-79 SE¼, Empire State 25-A.
7-39-78 SW¼, Salt Creek Cons. 18-A.
2-39-79 SW¼, Mutual Oil 12-A.
8-39-78 SE¼, Outwest Pet. 6-A, 34-A.
11-39-79 SW¼, E. T Williams 2-A.
22-40-79 SW¼, Wyokans Synd. 4.
19-40-78 SE¼, SE¼, Norris Oil 18-A.
5-39-78 NW¼, Western States O. and L. 4-A.
7-39-78 SE¼, Chappel Oil 3.
8-39-78 NE¼, Eureka Wyoming 2.
13-38-78 SW¼, Wyoming Teapot Oil 1.
16-38-78 NE¼, Nicholsgsen et al 1.
5-39-78 SE¼, Western States O. and L. 33-A.
31-40-78 NE¼, Salt Creek Cons. 22-A.
28-39-78 NW¼, Mammoth Oil 404.
6-39-78 SW¼, Prod. and Ref. 5.
8-39-78 SW¼, Western States O. and L. 21-A.
82-40-78 NW¼, Continental Prod. B-9.
6-39-78 NE¼, Mountain & Gulf 37-A.
10-38-78 NW¼, Mammoth Oil 203.
19-40-78 SE¼, Continental Prod. 5.

Wells Drilling

19-40-78 SE¼, Continental Prod. 4.
17-39-78 SE¼, Marine Oil 6.
30-40-78 SE¼, Prod. and Ref. 3.
34-40-79 NW¼, Wyoming Asso. 24-AX.
15-40-79 NE¼, Wyoming Asso. 26-A.
27-40-79 NE¼, Wyoming Asso. 17-AX.
30-40-78 SW¼, Wyoming Asso. 24-A.
30-40-78 SE¼, Wyoming Asso. 18-A.
2-39-79 NW¼, Salt Creek Cons. 22-X.
2-39-79 NW¼, Midwest Oil 23-X.
11-40-79 SW¼, Midwest Oil 30-A.
19-40-78 SW¼, Midwest Oil 21-A.
22-40-79 NE¼, Midwest Oil 5-A.
20-39-78 Tract E, Ohio Oil 4.
9-39-78 SW¼, Marine Oil DS-3.
13-39-79 SW¼, Continental Prod. H-2.
17-39-78 NE¼, Carter Oil P-7, P-8.
19-39-78 SW¼, Mosher Synd. 2-S.
2-39-79 SW¼, Mutual Oil 2-A.
2-39-79 NW¼, Midwest Oil 15-A.
2-39-79 NW¼, Midwest Oil 23-AX.
36-40-79 NE¼, Midwest-Wyo. Asso. 13-AX.
25-40-79 NE¼, Midwest-Wyoming Asso. 23-A.
10-38-78 NE¼, Mammoth Oil 101.
22-40-79 NW¼, Kasoming Oil G-2S.
28-40-79 SE¼, J. C. Smith S-1.
22-40-79 NE¼, Midwest Oil 7-A, 12-A.
21-39-78 SW¼, Mammoth Oil 304.
7-39-78 NW¼, Kasoming Oil E-9.
22-40-79 SW¼, Wyokans Synd. 5.
7-39-78 SE¼, Chappel Oil 1-DD.
8-39-78 NE¼, Carter Oil H-1.
10-40-79 SE¼, Empire State 26-AX.
3-39-79 NE¼, Salt Creek Cons. 30-A.
6-39-78 NW¼, Blackstone Salt Creek 3-A.
13-39-79 NW¼, Kasoming Oil D-6.
15-40-79 Prod. and Ref. 7.
3-39-79 NW¼, Salt Creek Cons. 25-A.
17-39-78 Tract G, Ohio Oil 1.
20-39-78 Tract ET, Ohio Oil 4.
18-40-78 SW¼, Continental Prod. 1-W.
22-40-79 NW¼, Kasoming Oil G-14.
18-40-78 SE¼, Prod. and Ref. 2.
19-39-78 NW¼, Continental Prod. R-3.
15-40-79 SE¼, Wyoming Asso. 22-A.
3-39-79 SE¼, Salt Creek Cons. 26-A.
31-40-78 NE¼, Salt Creek Cons. 31-A.
34-40-79 NW¼, Midwest Oil 13-A.
34-40-79 SW¼, Mutual Oil 24-A.
7-40-78 NE¼, Pacific Oil 4-A.
28-39-78 SW¼, Mammoth Oil 302.
28-39-78 NW¼, Mammoth Oil 205.
33-39-78 SE¼, Mammoth Oil 402.
22-40-79 NE¼, Wyoming Oil Fields 5-A.
22-40-79 SE¼, Wyoming Asso. 32-A.
3-39-79 SE¼, Salt Creek Cons. 34-A.
4-38-78 NE¼, Mammoth Oil 101.

Shut Down

23-39-79 SE¼, Evans Oil Corp. 1.
3-39-79 NW¼, Duthie Oil 4, 5.
22-40-79 NW¼, E. T. Williams 23-A.
34-40-79 SW¼, Boston Wyoming 35-A.
29-40-78 NW¼, Omaha Lusk Oil 1.
28-40-78 SW¼, Jupiter Oil 27-A.
25-40-79 SE¼, Midwest Oil 7-A.
2-39-79 NW¼, Wyoming Asso. 23-A.
7-39-78 SE¼, Chappel Oil 3.
10-39-79 NW¼, Hardendorf et al.
20-39-78 SE¼, Mutual Oil 1.
4-38-78 SE¼, R. C. Tarrant.
26-39-78 SW¼, Teapot Dome Synd. 15-A.
2-38-78 SE¼, Teapot Dome Synd. 34-A.
2-38-78 NE¼, Teapot Dome Synd.
Rigs, 43; wells drilling, 75; total, 118.

LANCE CREEK

Wells Drilling

28-35-65 Tom Bell, Buck Creek Oil 6.
3-35-65 Tom Bell, Buck Creek 5.
5-35-65 Elliott, Western States O. and L. 3.
5-35-65 Schuriet, Ohio Oil 1.
5-35-65 Thompson, Ohio Oil 1.

Shut Down

18-35-65 NE¼, Union Oil 1.
East Part, Clark Prod. Co. 1.
Wells drilling, 7.

WARM SPRINGS, GRASS CREEK, ETC.

Rigs

13-44-98 NW¼, Western States O. and L. 17.
24-44-98 NE¼, Western States O. and L.
23-44-93 Flavin, Ohio Oil 1.
5-47-90 Heltzler, Ohio Oil 1.
Gebo Dome, Utah O. and R.
29-46-98 Mill Iron, Ohio Oil 14.

Wells Drilling

14-44-98 NW¼, Midwest Ref. 1.
19-46-98 Ridgeley, Midwest Ref. 17.
31-48-90 Brome, Ohio Oil 1.
18-46-98 Washakie, Ohio Oil 4.
26-46-100 Prod. and Ref. 1.
Thermopolis Town Lot, H. D. Curtis et al.
13-45-93 SW¼, Midwest Ref. 1.
11-45-97 SE¼, Midwest Ref. 1.
18-46-98 Meteetsee, Midwest Ref. 19-A.
19-46-98 State, Ohio Oil 39.
20-46-98 Mill Iron, Ohio Oil 68.
12-45-97 SW¼, Midwest Ref. 1.
18-46-98 Wylie, Ohio Oil 19.
Warm Spr ngs Field, Leslie Oil.
31-48-99 SW¼, Midwest Ref. 1.
3-42-93 NE¼, Union Oil 2.

Shut Down

27-46-98 Dickie Oil 1.
8-46-98 NW¼, Grass Creek Prod. 1.
17-46-98 NW¼, Tunadore Oil 1.
27-41-91 Wyoming Missouri Oil 1.
14-44-98 NW¼, Phoebus Oil 1.
27-46-98 Columbus Oil 1.
16-46-93 Curtis Oil 1.
17-42-95 NE¼, Markham and Woods 1.
Rigs, 6; wells drilling, 24; total, 30.

BIG HORN BASIN

Rigs

32-56-97 Howell, Occidental Oil.
24-58-99 Elk 3, Ohio Oil 23.
Crystal Creek, C. W. Litton.
Cowley district, C. W. Litton.

Wells Drilling

2-56-97 Jones, Allen Oil 1.
3-55-97 Griffin, Allen Oil 1.
31-48-100 SW¼, Mi'west Ref 1.
33-56-97 Cross Gas Co., Ohio Oil 1.
Lamb anticline, Vanguard Oil 3.
32-58-99 SW¼, Midwest Ref. 1.
30-56-97 Prod. and Ref. 1.
Torchlight Dome, Bruce Holding Co. 1.
32-58-99 Thompson Elk Basin Oil.
26-57-95 Transark Oil.
8-51-100 Sonners, Ohio Oil 1.
23-53-100 Union Oil.
35- 9-23 Elk 11, Midwest Ref. 2.

Shut Down

24-58-100 Beck Pet. Co.
17-46-91 Frontier O. and G.
23-58-97 Greenless et al.
16-47-100 Big Horn Dev. Co. 1.
Cowley district, Julius Williams.
Burlington District, Tatman Mt. Oil 1.
Deaver District, Montana Wyoming Oil 1.
Rigs, 4; wells drilling, 20; total, 24.

LOST SOLDIER AND CARBON COUNTY

Rigs

32-26-87 NW¼, Prod. O. and G. 1.
36-25-89 NE¼, Prod. and Ref. 2.
10-26-90 U. S. Petroleum.
16-25-89 NW¼, General Pet. 4.
8-25-86 Gov. land, General Pet. 1.
31-25-86 Gov. land, General Pet. 3, 4.
21-26-86 Portland Wyoming 4.

Wells Drilling

11-26-90 Bair Oil 38-A.
12-26-90 Texas Prod. 1.
36-25-88 M. M. Armstrong.
2-19-88 Hatfield Oil 2.
32-26-87 NW¼, Prod. and Ref. 1.
3-26-90 Texas Prod. 2.
14-25-89 Gov. land, Prod. and Ref. 1.
7-26-89 Prod. and Ref. 3, 4.
4-25-88 NE¼, Prod. and Ref. 2.
33-26-88 SE¼, Prod. and Ref. 2.
25-26-88 SE¼, Hughes Royalty 1.
35-25-88 SW¼, Prod. and Ref. 2.
35-26-88 NE¼, Prod. and Ref. 4.
34-27-90 S½, Annabelle Wyoming 1.
32-26-88 NE¼, Prod. and Ref. 1.
2-26-90 Prod. and Ref. 1.
11-26-90 Bair Oil 36-A, 47-A.
22-26-89 Prod. and Ref. 1.
36-26-88 Ohio Oil 1.
5-24-96 Wickersham, Ohio Oil 1.

Shut Down

24-26-87 SW¼, Prod. and Ref. 20.
25-26-86 Prod. and Ref. 22.
2-24-87 Calhoun, Ohio Oil 2.
10-26-88 Renroh Synd.
1-25-88 NE¼, M and S Synd.
11-26-87 Emery Synd.
2-25-87 Gov. land, General Pet. 1.
16-25-86 Gov. land, General Pet. 3.
3-25-87 Gov. land, General Pet. 1.
31-26-86 Gov. land, General Pet. 1.
28-26-88 Gov. land, Columbia Pet.
16-26-89 U. S. Pet.
25-26-89 Gov. land, Commonwealth Pet.
14-26-90 NW¼, Bair Oil B-3.
25-26-89 SW¼, Bair Oil F-1.
10-26-90 NE¼, Bair Oil C-2.
3-26-90 Bair Oil 39-A.
9-26-90 Major Oil Co. 1.
22-26-90 NE¼, Prod. and Ref. 2.
1-23-89 Prod. and Ref. 1.
33-26-88 NE¼, Prod. and Ref. 1.
34-26-88 SW¼, Kasoming Oil C-2.
25-26-88 SW¼, Kasoming Oil D-1.
26-26-88 Portland Wyoming 1, 2.
9-25-86 SE¼, Sand Hills Oil 1, 2.
29-26-87 Prod. and Ref. 1.
Rigs, 8; wells drilling, 50; total, 58.

ROCK RIVER DISTRICT

Wells Drilling

2-19-78 Hand C. Ohio Oil 9.
36-21-79 NW¼, Southwestern Pet. 1.
34-20-78 State, Ohio Oil 10.
14-15-75 SE¼, Wyoming Hollow Basin Co. 1.
26-21-79 Southwestern Pet. 2.
23-16-74 Gov. land, G. A. Briggs.
27-20-78 D. C. Co., Ohio Oil 2.
25-21-79 SE¼, Southwestern Pet. 1.

Shut Down

34-23-79 NE¼, Central Pipe Line Co. 1.
4-19-78 State, Hutton Lake Oil 1.
32-16-74 Gov. land, Spindle Top Oil 1.
18-15-75 Apex Ref. 1.
18-15-85 Gov. land, Pet. Oil Fields 1.
12-20-77 Gov. land, McLaughlin et al.
10-18-77 Gov. land, Carbon Oil 1.
11-19-76 Gov. land, Dutton Creek O. and G.
21-21-76 Gov. land, McMurray et al.
32-21-78 Gov. land, Ross et al.
20-18-77 Gov. land, Wyoming Rock Creek Co. 1.
Rigs, 6; wells drilling, 19; total, 19.

FREMONT COUNTY

Rigs

23-32-95 Sand Draw, Prod. and Ref. 2.
2-39-83 Chemical Dome Lux Oil Corp.
Sage Creek, Washakie Synd.
29-34-92 Oliver et al.

Wells Drilling

15-6-2 SW¼, Union Oil 13.
Dutton Basin, Texas Prod. 3.
18-27-95 SW¼, Sage Creek Pet. 3.
24-23-96 Red Desert Oil Synd.
Lysite district, Miners O. and G.
15-34-90 Ward Oil 1.
27- 6- 3 Kinney Coastal Oil 1.
9-32-95 Sand Draw, Prod. and Ref. 2.
15-32-95 Sand Draw, Prod. and Ref. 3.
14-32-95 Riverton Drg. Co. 1.
7-28-92 NW¼, Southwestern Pet. 1.
8- 5- 2 Marine Oil 2.
Burley Dome, Burley Dome Oil 1.

Shut Down

17-27-95 Sage Creek Pet. 2.
Wind River district, Teton Pet. 1.
2-27-92 Fremont Consol. Pet. 1.
25-27-92 American Workers Oil Fields 1.
14-28-93 American Workers Oil Fields 1.
26- 5- 2 Connelly O. and L. Co. 1.
Derby Dome, Derby Dome Oil 8, 9.
14-35- 2 Prod. and Ref. 1.
Shoshoni District, Indian Oil 1.
Chemical Dome, Shoshoni Synd. 1.
Lower Muskrat, Minnesota Western 1.
16-38-92 Howe O. and G. 1.
McComb Dome, Northern Wyoming Oil 1.
Maverick Springs, Maverick Springs Dev 1.
Dutton Basin, Seal Oil Assn.
Rigs, 4; wells drilling, 29; total, 33.

MULE CREEK

Shut Down

36-41-61 Western Dakota Oil 1.
30-38-60 Western States O. and L. 1.
Wells drilling, 2.

OSAGE

Rigs

31-46-62 Clark et al 1.
25-46-64 Fletcher Oil.
30-46-63 Glenn Oil.
17-46-63 La Fleiche Oil.
17-46-63 La Fleiche Oil.
17-46-63 Osage Trust Co. 9.
19-46-63 Sinclair Wyoming.
31-46-63 Tom Don Oil.

Wells Drilling

11-45-64 Frederick Oil 1.
12-46-64 Osage Trust Co. 19.
6-46-63 Osage Trust Co.
20-46-63 Sankey et al 3.
19-46-63 Sinclair, Wyoming 11.

Shut Down

21-45-63 Bachelor Oil 1.
8-45-63 Griffith et al 1.
18-46-63 High Test Oil 2.
Rigs, 8; wells drilling, 8; total, 16.

NATRONA COUNTY

Rigs

15-34-87 NE¼, Mutual Oil 1.
22-37-81 California Oil 1.

Wells Drilling

18-33-83 NW¼, California Oil 5.
15-32-82 Banaher Synd. 1.
36-37-82 SE¼, Midwest Ref. 1.
31-40-80 Comet Synd. 1.
9-34-82 Bradford, Wyoming 1.
20-37-82 NW¼, Wyland Synd. 1.
Poison Spider Field, Fargo Oil 24, 25, 26.
10-36-85 Boone Dome, New York Oil.
12-32-83 New York Oil 10.
9-35-85 New York Oil 4.

Shut Down

35-35-84 E½, Alaska Dev. Co. 1.
35-35-84 W½, Alaska Dev. 2.
Two Bar Dome, Casper Synd. 1.
2-34-84 California Oil 1.
Johnson Ranch, Newton et al.
12-34-84 Cheney et al.
Lox Anticline, Lox Syndicate.
Rigs, 2; wells drilling, 19; total, 21.

LICOLN AND UINTAH COUNTIES

Rigs

3-26-113 Wyoming Reserve Oil.
12-29-93 Federal Drg. Co. 1.
12-15-118 Prod. Oil & Gas.
Waterfall Dome, Kie-Ro-Po Synd.

Wells Drilling

Corder Ranch, Beaver Ranch.
20-14-118 Hyland O. and G.
La Barge Field, Newlon Synd.

Shut Down

Afton District, Wyoming Idaho Oil 1.
11-21-115 Waterfall District, Gulf Coast Oil.
Cretaceous Field, R. and N. Co. 1.
28-28-112 Geo. Downley et al 1.
Cumberland Dome, J. A. Moore.
1-29-112 Utterback Synd.
1-28-114 Chas. Lackey et al.
Big Piney, Piney Crescent Oil.
gig Piney, Nippon Oil
Waterfall Dome, Consolidated Pet.
Carter Field, Wyoming Illinois Oil.
Fossil Oil, Wyoming Pacific Oil.
Davison Dome, Gulf Coast Oil.
14-21-117 Hersman Oil 1.
Rigs, 4; wells drilling, 17; total, 21.

BAXTER BASIN

Rigs

27-17-104 Montacal Oil 1.
7-17-103 Petrogas Oil.

Wells Drilling

10-16-104 SE¼, Midwest Ref. 29.
10-16-104 NW¼, Midwest Ref. 36.
2-17-104 NE¼, Midwest Ref. 1.
36-18-104 NE¼, Midwest Ref. 1-X.
25-18-104 SE¼, Midwest Ref. 29.
36-17-104 NW¼, Prod. and Ref. 1.
22-16-104 A. J. P., Ohio Oil 1.
14-17-104 Hay, Ohio Oil 1.

Shut Down

24-17-104 SW¼, Montacal Oil 1.
26-17-104 NE¼, Associated Oil 1.

11-17-104 Associated Oil 1.
10-16-104 Midwest Ref. 6-AX.
1-16-104 NE¼, Montacal Oil 1.
Rigs, 2; wells drilling, 13; total, 15.

MISCELLANEOUS

Rigs

Newcastle district, Ferguson et al.
Moorcroft district, Fee and Rice.
15-51-67 Greytop Oil 1.
Little Missouri, Union Oil 1.
12-46-63 Wyoming Development 1.
Knost Dome, Omaha Synd.

Wells Drilling

12-48-62 Tarrant Synd.
10-51-80 Prod. and Ref. 1.
Buffalo district, Kinney Coastal Oil 1.
10-51-80 Prod. and Ref. 3.
10-51-80 Prod. and Ref. 1.
25-47-65 Gose Synd.
25-45-62 Shaw & Scott.
Colony district, Walther & Barnard.
21-43-62 Carter Oil 3.
1-48-65 Prod. and Ref. 1.
Knost Dome, Rozet Oil 1.
1-31-70 Douglas District, Frey & Dye.
17-48-62 Billy Creek, Carter Oil 4.
Glendo district, Nebraska Synd.
1-41-80 Newton & Maxwell.
12-38-70 Womens National Oil.

Shut Down

Clay Basin, Prod. and Ref. 1.
Vernon Dome, Walter Hargis et al.
Lingle district, Foreman et al 1.
16-43-79 Atlantic Drg. Co. 1.
Pickett Lake, Annabell Wyoming 1.
La Prele Dome, Armour Synd.
Moorcroft Field, Southwest Oil.
Bromer Ranch, Illinois Wyoming Oil.
Cottonwood Dome, Baker Pet.
Yakeman District, Mississippi Delta.
17-50-66 Trail Creek Oil.
17-41-65 Houghton Oil.
Berger Ranch, Wyoming Hi Gravity Oil.
15-36-78 Turner Creek Oil.
Page Dome, Crook County, Hover Bros.
Douglas District, Reliance Oil.
Douglas District, Ajax Wyoming.
Horse Creek, National Oil.
1-37-72 Cheyenne River Oil.
10-37-61 Platte Wyoming Oil.
10-35-68 Glendo Oil & Gas.
10-31-71 La Bonte Oil & Gas.
1-36-70 Blaiser Synd.
1-35-66 Lost Creek Consol.
Thornton Field, Neffsy Bros.
Rigs, 6; wells drilling, 41; total, 47.

MONTANA

CAT CREEK

Rigs

West Cat Creek, California Co. 5.

Wells Drilling

Green lease, California Co. 2.
West Cat Creek, California Co. 4.
9-15-27 Peerless Oil 2.
15-14-28 Winnett Pacific 1.
1-15-28 Custer, O. and G. 1.
26-16-28 Republic, Peerless Oil 1.
4-15-29 NE¼, Frantz Corp. 8.
7-15-29 NW¼, Hogan Oil 2.
13-15-28 Shaffer O. and R.
9-15-29 Mid Northern Oil.
29-14-29 Flatwillow Oil.
27-15-30 Frantz Corp.
34-15-30 Absoraka Oil Dev.

Shut Down

7-15-29 NW¼, Fifty Six Pet.
16-15-29 Fifty Six Pet.
23-15-30 A. B. Miller.
11-15-30 Helena Cat Creek Oil.
24-15-30 Montacal Oil.
9-15-29 Logan Corp.
15-15-30 Montana Synd.
31-15-30 Swartz et al.
11-15-30 Miles City Oil.
Rigs, 1; wells drilling, 22; total, 23.

KEVIN SUNBURST

Rigs

7-35-1 SW¼, Hager Stevenson Oil.
35-35-2 Stannard, Beaver Oil 2.
11-35-2 Stockmens Bank, Ohio Oil 2.
9-35-2 Bruins, Western Pet. Ex. 4.
34-35-2 Davey, Ohio Oil 9.
11-35-2 Barth, Hager Stevenson 2.
11-34-1 Stockmens Bank, Potlatch O. and G. 1.
26-33-1 Jarret, Sunburst O. and G.
35-35-2 Kaskin, Ohio Oil 1.
4-35-2 Baker, Ohio Oil 9.
10-35-2 Hecla Oil 1.
26-35-2 Whitman, Homestake Explo. 1.
7-31-2 Jones, Olympic Oil 1.

Wells Drilling

11-35-1 White, Jones Oil 1.
28-35-1 Bluhm, Greel Oil 1.
4-34-2 Norem, Sunburst Oil 1.
7-33-1 Seward, Sunburst Oil 1.
11-33-1 Webb, Shelby O. and G. 1.
34-35-2 Stannard, Wyomonta Oil 1.
9-35-2 Swears, Mid Northern Oil 3.
34-35-2 Zimmerman, Sunburst Wells 1.
9-35-2 Howling, Mid Northern Oil 5.
34-35-2 NW¼, Maybelle Oil 1.
11-34-4 California Co. 1.
34-35-1 Shelby Synd. 1.
9-35-2 Swears, C. Beardsley 2.
28-35-2 Malcolm, National Explo. 1.
25-37-2 McAlpine, Spartan Oil 1.
28-35-2 Halter, Kevin Roberts 1.
26-35-2 Halter, Sunburst Prod. 2.
7-34-1 Carlson, Dakota Montana 1.
11-35-2 Rousley, Sunburst O. and G.
17-34-2 De Groat, Shelby Kevin.
34-35-1 Carlsen, Securities Oil.
7-35-1 Skilton, Sweetgrass Arch 2.
25-35-2 Boyd, Adams Rochester 1.

Shut Down

11-33-4 Beck Pet. 1.
31-35-2 Stewart, Campbell 1.
34-35-2 NW¼, Spartan Montana 1.
34-35-2 Godertz, Campbell 1.
34-35-2 Godertz, Jr., Campbell 1.
13-34-1 Peterson, Lucky Forty Oil 1.
11-35-2 McGowan, Holding & Royalty 1.
11-35-2 Campbell, Campbell 5.
34-34-2 NW¼, Rainbow Oil 2.
11-35-2 NW¼, Shaffer Oil 1.
1-34-2 NE¼, Sunburst O. and G.
Rigs, 13; wells drilling, 34; total, 47.

MISCELLANEOUS

Rigs

Livingston Dome, Whiteside et al 1.
Porcupine Dome, Stellar O. and G. 7.
Great Falls District, Virgelle Oil.

24-15-15 Fullerton Oil 1.
12-10-32 Hibbard Oil 1.

Wells Drilling

32-30-2 Denzer, Drake Oil 1.
21-30- 3 Turner, Fergus O. and G.
30-16-26 NE¼, Wilson & Fisher 1.
14- 2-22 He. Frye et al 1.
22- 2-25 McMenamin et al 1.
35- 7-13 Churchwell et al.
18- 6-24 Minnemier & Newman 1.
5- 1-21 Carncross Oil 1.
10-18- 2 Moscow Oil & Explo. 1.
30-15-26 Winnet Shallow Field Synd.
32- 4-16 SE¼, Consolidated O. and G. 1.
34- 7-16 NE¼, California Co. 1.
3-12-25 SW¼, Minnesota Flatwillow.
19-37- 4 NE¼, Gladys Belle 1.
12-36- 5 Frazer et al 1.
29-21-14 Mid-States Oil.
9-12-14 Oil Springs Dev. 1.
29-11-23 Montana Pioneer 2.
25- 7-24 Penn Oil Dev. 1.
22-25-50 Butler O. and G.
24-20-12 Continental Prod. 1.
17- 3-19 Snyder, Mid Northern Oil 1.
8-26- 6 Jones, Walter Bright.
20-25- 6 Larson, Walter Bright.
15-27- 7 Kelly, Empire Oil 1.
27-20-13 Arrow Creek Oil 1.
22-23-13 Hager Stevenson 1.
McGinnis Dome, Sherard Synd. 1.
18-23-21 Lake, Carter Oil 1.
2-28- 3 NE¼, Dry Fork Oil 1.
21-24-24 Phillips Dev., Ohio Oil 1.
Bauley Dome, Montana Equipment Co.
Muddy Creek, Mountaineer Oil 1.
14-18- 4 Eliakin Oil 1.
26- 1-21 Hepp, Mid-Northern Oil 1.
18-16-26 Newdigate et al 1.
14-11-24 Devil's Basin, Fifty Six Pet.
15-37- 7 Empire, Montana Oil.
8- 1-31 NW¼, Grimstead & Brown.
Ragged Point, Flynn Brothers.
Antelope Point, Hard Times Oil.
2-26- 6 Marion Edwards.
29-14-29 Whaley et al.
24- 4-61 Absoraka Oil Dev. 1.
26-16-39 Stellar O. & G. 6.
9-10-39 Stellar O. & G. 5.
7- 4-22 Security Pet. 1.
35-32-32 NE¼, Bowdoin O. & G.
25- 5- 8 SW¼, Potter Basin Oil.
27- 7-13 Harlowton O. & G. 1.
17-11-29 Absoraka Oil Dev. 1.
Wilsall Dome, Shields Valley Oil.
4-17-20 California Oil.
10-13-34 Absoraka Oil Dev.
Great Falls district, Cascade O. & G.
22- 9- 3 Greater Great Falls Oil.
21-14-28 Black Hawk Oil.

Shut Down

6-13-14 NE¼, Fulton Oil 1.
26-14-29 NW¼, Jackson Dome Oil.
18- 6-24 NE¼, Yellowstone Pet. Synd.
7-27- 7 Circle Oil 1.
9-11-24 Tri City Oil.
18-26-26 Walker Bros.
25-17-22 Cosmos Oil 1.
12-11-23 Arsted Oil.
Devil's Basin, Alberta Block Coal Co.
Big Coulee, Midland Pet.
3- 4-23 Hoosier Oil
12-18-13 Arrow Creek Pet.
28-13-25 Wayne Pet.
3-18-20 Big Bud Oil.
26- 7-12 Elk Pet. Synd.
25-32-19 Bowes Structure Oil.
36- 2- 7 Gladys Belle Oil.
Coalwood Dome, Annamay Oil.
Hallstone Basin, Hallstone Basin Oil.
Devil's Basin, Montana Central Oil.
Devil's Basin, Monarch Oil.
35- 5- 8 Portland Synd.
32-20- 1 Columbus Oil.
24- 5-17 Unit O. & G.
23- 2- 5 Fox et al.
19-11-23 Montana Pioneer 1.
23- 3-34 Davis Creek Synd.
33- 5-28 Beauvois Oil.
12-11-13 Kalispell Synd.
13-13-20 Omaha Pet.
32- 1-38 Tennessee, Montana Oil.
6- 5-25 Grey Eagle Oil.
23-11-24 Allen Oil.
21-11-39 Success Ref. Co.
8-35- 1 Idaho Montana 1.
20-30- 1 A. M. Barringer.
31-15-45 Crow Rock Oil.
6- 6-17 Armsted Oil.
1-10-21 Williams O. & G.
2- 2-26 Clark's Fork Oil.
25- 8- 9 Beaver, Alberta Oil.
11- 1- 1 Ruby Ridge Oil.
2- 2-12 Montana, Pacific Oil.
10-34-34 Mid-Northern Oil.
13- 3-22 SW¼, Lawson Ritter.
Rigs, 5; wells drilling, 102; total, 107.

UTAH

MISCELLANEOUS

Rigs

Mexican Hat Dome, Utah Southern Oil.

Wells Drilling

Near Cisco, Cisco Drg. Co. 1.
Gypsum Creek, San Juan Oil Dev. Co. 1.
12-19-23 Government land, Utah O. & R.
12-15-11 Government land, Utah O. & R.
34-25-21 Big Six Oil.
16- 2- 5 State, Western Empire Oil.
19-42-18 Government land, Monumental Oil.
35-32-14 Wilson Cranmer Co.
6- 2- 8 Ohio Oil 1.
Crescent Dome, Crescent Eagle Oil.
31-42-18 Union Oil of Utah.

Shut Down

13-14-19 Castledale Oil.
27-16- 4 Producers Oil.
Lakeside Dome, W. R. Holmes.
Diamond Fork, Franco Utah Oil.
Diamond Fork, Gustaven Oil.
17- 4- 6 Ute Pet., Utah Southern Oil 1.
25-13-1 Cache Valley Oil Assn.
Box Elder County, Nebeker Interests.
2-17-3 Utah Central Oil.
Moffat Dome, Uintah Explo.
Harrisburg Dome, Virgin Oil.
Evans claim, Uintah County, U. S. Oil.
Hill Creek, Hill Creek O. & R.
Hill Creek, Mutual Oil.
Rigs, 1; wells drilling, 25; total, 26.

WYOMING

Wells Completed

1-39-79 Dain 9, Ohio Oil 12 100
20-39-78 NW¼, Producers & Refiners BY-9 150
15-40-79 SE¼, Producers & Refiners 8X 480
10-39-79 NE¼, Bessemer Oil 7-A..... 100
29-40-79 SW¼, Continental Prod. S-3... 400
23-40-79 NW¼, Wyoming Oil Fields 10-A 400
34-40-79 NE¼, Wyoming Associated Oil 18-A 500
13-40-79 NE¼, Mountain & Gulf 36-A.. 400
11-40-79 NW¼, Mountain & Gulf 36-A. 200
12-40-79 NE¼, Mountain & Gulf 12-A.. 300
35-40-79 NE¼, Midwest Oil 26-AS..... 400
34-40-79 NE¼, Wyoming Associated 19-AX 500
11-39-79 NE¼, Salt Creek Con. 8-AS... 250
24-40-79 NW¼, Wyoming Associated 29-AX 1555
22-40-79 SE¼, Wyoming Oil Fields 7-A 45
32-40-78 NW¼, Continental Prod. B-7.. 300
32-40-78 NW¼, Continental Prod. B-8.. 300
8-39-78 NW¼, Mariue Oil O-2-S..... 75
11-40-79 SE¼, Midwest Oil 6-A..... 200
2-39-79 NW¼, Midwest Oil 35 50
36-40-79 NE¼, Midwest Wyoming Assn. 17-AX 155
28-39-78 NW¼, Mammoth Oil 202 100
28-39-78 SE¼, Mammoth Oil 405 120
28-39-78 NW¼, Mammoth Oil 203 100
27-39-78 NW¼, Mammoth Oil 302 175
27-39-78 SW¼, Mammoth Oil 303 190
33-39-78 NW¼, Mammoth Oil 201 45
36-43-91 Utah O. & R. 1 250
34- 9-23 SE¼, Boyd Oil 30
Bolton Creek Field, Kinney Coastal 13.. 100

Wells completed	30
Production	7970
Dry	0
Gas	0
Gas production	0

MONTANA

Wells Completed

8-35- 2 McGowan, Montana Giant 1.. 15
29-35- 1 Bluhm, Midfield Oil 1 ..... dry
2-32- 4 Buckner, No Jack Oil 1 ..... dry
4-34- 2 Storme, Shoshone Oil 2 300
23-29- 4 Flume, Montana Giant 1 ..... dry
2-32-33 Smith, Homestake Explo. 1.... dry
18-23- 4 NE¼, Carter Oil 1 ..... dry
19-24- 2 Markham, Midwest Ref. 1..... dry
2- 2-26 SE¼, Bitter Creek Oil 1 ..... dry
16-25- 1 Ohio Oil 2 ..... dry

Wells completed	10
Production	315
Dry	8
Gas	0
Gas production	0

Classified Advertisements Pages 124-125-126

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TRIMO

6341

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE STATEMENT FOR DECEMBER

Runs

	Month	Daily Av.
*Prairie Pipe Line Co.	3,193,000	103,000
Gulf Pipe Line Co.	1,074,674	34,667
Texas Pipe Line Co. of Okla.	628,620	20,278
Magnolia Petroleum Co.	914,809	29,510
Empire Pipe Line Co.	752,385	24,270
Cosden Pipe Line Co.	624,906	20,158
*Sinclair Pipe Line Co.	713,000	23,000
*Other lines	6,541,000	211,000
Total December	14,442,394	465,883
Total November	14,752,482	491,749
Difference	310,088	25,866

Shipments

†Prairie Pipe Line Co.	4,162,760	134,250
Gulf Pipe Line Co.	1,117,315	36,042
Texas Pipe Line Co. of Okla.	776,686	25,054
Magnolia Petroleum Co.	756,097	24,390
Empire Pipe Line Co.	589,026	28,678
Cosden Pipe Line Co.	840,046	27,098
*Sinclair Pipe Line Co.	1,209,000	39,000
*Other lines	5,580,000	180,000
Total December	15,330,930	494,512
Total November	13,225,241	440,839
Difference	2,105,689	53,673

Stocks

Prairie Oil & Gas Co.	22,000,000
Prairie Pipe Line Co.	1,750,000
Gulf Pipe Line Co. & Gypsy Oil Co.	9,069,788
The Texas Co. and Texas Pipe Line Co.	7,558,618
Magnolia Petroleum Co.	8,313,159
Empire Pipe Line Co.	2,735,805
Cosden Pipe Line Co.	3,274,916
Carter Oil Co.	17,676,772
*Sinclair Crude Oil Pur. Co.	30,330,000
*Other lines	7,650,000
Total	110,559,038
Total November	108,835,451
Difference	1,714,587

*Estimated. †Includes shipments of Texas crude oil.

Note—Stocks do not include approximately 8,000,000 barrels of oil held in storage on private tank farms and leases.

Daily Average Runs

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for November and December:

	Nov., '23	Dec., '23
Nat. Transit	178,880.95	180,363.54
S. W. Pa. P. L.	80,301.07	79,157.04
Eureka P. L.	345,268.16	358,438.80
Buckeye P. L. (Macksburg)	266,960.08	257,274.06
Buckeye P. L. (Cleveland)	15,777.99	15,419.37
Buckeye P. L. (Lima, etc.)	130,829.38	128,881.77
Indiana P. L.	13,120.99	11,555.83
Cumberland P. L.	368,174.21	364,727.40
N. Y. Transit	14,967.98	15,691.83
Tidewater P. L.	139,902.74	144,463.97
Pure Oil P. L.	179,108.65	181,806.87
Emery P. L.	31,556.95	31,157.28
Indian Ref.	292,637.55	291,762.78
Paragon Dev.	30,277.00	45,532.2b
Pittsburgh P. L.	7,892.18	8,089.32
Riggs Ref.	.....	4,430.31
Union P. L.	24,630.71	24,988.93
Fords Br'k P. L.	645.36	602.48
Allegany P. L.	1,913.90	2,068.76
Total	2,122,845.75	2,147,413.61
Daily average	70,761.52	69,271.41

Note: Indian Refining Co. also reported other receipts of 86,516.22 Paragon Refining Co. had other receipts of 125,403.71 bbls. Paragon Development Co. had other receipts of 366.14 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for November and December:

	Nov., '23	Dec., '23
Nat. Transit	457,702.13	421,324.69
S. W. Pa. P. L.	284,651.72	291,869.7b
Eureka P. L.	127,735.31	125,610.81
Buckeye P. L. (Macksburg)	95,645.60	61,221.73
Buckeye P. L. (Cleveland)	1,650.70	829.91
Buckeye P. L. (Lima, etc.)	666,847.26	613,417.44
Indiana P. L.	841,514.12	1,055,479.8b
Cumberland P. L.	160,275.56	142,529.09
Southern P. L.	250.43	.....
Crescent P. L.	22,221.40	74,316.69
N. Y. Transit	298,254.77	459,289.57
Northern P. L.	37,609.12	21,003.34
Tidewater P. L.	142,737.44	192,814.03
Pure Oil P. L.	170,167.25	142,535.76
Emery P. L.	31,279.78	38,433.42
Paragon Ref.	110,589.28	132,066.32
Indian Ref.	415,340.50	482,066.55
Paragon Dev.	36,367.94	48,614.54
Pittsburgh P. L.	10,803.18	8,267.22
Union P. L.	18,604.71	28,217.95
Fords Br'k P. L.	609.77	393.85
Allegany P. L.	1,910.03	1,862.82
Total	3,942,776.09	4,337,166.26
Daily average	131,425.87	139,908.59

Note: Indian Refining Co. also reported other deliveries of 40,871.00 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of November and December were as follows.:

	Nov., '23	Dec., '23
Nat. Transit	1,190,570.68	1,225,751.39
S. W. Pa. P. L.	743,388.59	710,078.60
Eureka P. L.	1,973,159.35	1,957,941.85
Buckeye P. L. (Macksburg)	476,597.93	560,577.30
Buckeye P. L. (Cleveland)	13,441.11	28,123.34
Buckeye P. L. (Lima, etc.)	4,312,302.50	3,884,990.13
Indiana P. L.	721,584.24	694,294.80
Cumberland P. L.	668,281.90	664,444.95
Southern P. L.	1,009,179.83	898,843.2a
Crescent P. L.	83,400.95	99,435.12
N. Y. Transit	1,171,884.45	1,083,763.72
Northern P. L.	771,268.81	719,299.81
Pure Oil P. L.	331,262.95	369,820.56
Emery P. L.	6,790.85	4,700.93
Paragon Ref.	167,737.84	170,286.82
Indian Ref.	475,752.41	331,508.45
Paragon Dev.	8,403.46	9,451.90
Pittsburgh P. L.	8,879.34	8,831.70
Riggs Ref.	.....	970.27
Union P. L.	22,969.51	19,916.8o
Fords Br'k P. L.	294.96	512.67
Allegany P. L.	574.41	819.88
Total	14,157,726.07	13,444,361.06
Decrease	846,384.46	713,365.01

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of November and December, showing the gross stocks of the above fields:

	Nov., '23	Dec., '23
Pennsylvania	3,818,921.71	3,936,846.09
Lima	916,253.97	977,079.18
Kentucky	1,900,641.05	1,814,965.1b
Mid-Continent	6,937,331.92	6,391,317.89
Illinois	584,577.42	324,152.75
Total	14,157,726.07	13,444,361.06

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1920	1921	1922	1923
Jan.	56,004	64,460	67,703	75,790
Feb.	68,699	70,054	75,096	71,092
Mar.	67,745	68,555	78,531	76,592
April	64,589	65,036	75,462	75,614
May	63,937	65,466	77,592	77,265
June	68,750	62,438	76,193	77,592
July	66,489	59,486	76,435	71,879
Aug.	63,861	64,888	79,387	76,910
Sept.	68,102	60,110	78,512	72,358
Oct.	65,066	57,688	77,209	76,266
Nov.	62,758	58,470	75,313	70,762
Dec.	60,975	61,000	73,351	69,271

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1920	1921	1922	1923
Jan.	98,835	115,550	119,782	171,067
Feb.	107,146	96,736	111,362	164,219
Mar.	110,777	84,168	127,753	185,487
Apr.	114,090	101,015	127,068	179,751
May	110,219	100,253	127,840	177,102
June	102,598	105,037	137,638	173,598
July	112,340	97,096	137,872	168,330
Aug.	122,296	101,652	153,275	142,766
Sept.	127,131	117,440	158,761	137,266
Oct.	122,891	105,728	165,345	134,597
Nov.	117,730	121,802	165,677	131,426
Dec.	117,201	104,023	172,861	139,909

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1921	1922	1923
Jan.	7,916,352	16,297,858	14,040,567
Feb.	8,721,878	17,009,293	14,028,427
Mar.	9,818,766	16,877,927	13,873,146
Apr.	10,369,941	16,777,842	13,737,576
May	11,224,694	16,943,962	13,815,622
June	12,328,126	16,810,169	14,541,253
July	13,798,692	16,669,286	14,645,584
Aug.	15,155,633	16,235,229	14,776,539
Sept.	15,525,750	16,228,545	14,803,444
Oct.	15,761,079	15,757,746	14,564,111
Nov.	14,971,071	15,171,972	14,157,726
Dec.	15,854,741	14,323,765	13,444,361

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

	Receipts	Shipments	Stocks
1922—			
Dec.	3,076.36	1,292.84	31,919.23
1923—			
Jan.	2,798.55	2,461.36	32,256.41
Feb.	2,692.93	932.33	34,017.01
Mar.	2,978.88	12,417.00	24,578.89
Apr.	3,529.12	2,054.09	25,053.92
May	3,538.73	4,856.42	23,736.23
June	2,927.71	4,743.78	21,920.16
July	2,996.64	1,471.87	23,445.23
Aug.	3,199.07	3,769.34	22,874.96
Sept.	2,329.79	5,822.38	19,382.37
Oct.	2,594.23	5,251.81	17,324.79
Nov.	2,980.66	4,150.98	16,154.47
Dec.	2,893.07	3,499.37	15,548.27

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Jan. 1	2,342,702.94
Runs from wells	504,571.91
Other receipts	149,987.90
Regular deliveries	240,344.06
Other deliveries	418,398.30

The amount of Illinois oil run by the Tidewater Pipe Line Co. in December was 29,613.13 barrels, and deliveries were 41,698.35 barrels. Adding these figures to those of the Illinois Pipe Line Co., makes the runs and deliveries from the Illinois field as follows:

	Runs	Deliveries
1922—		
December	552,069.33	391,868.37
1923—		
January	599,229.86	470,958.84
February	496,421.79	332,566.83
March	625,006.81	472,930.76
April	521,810.37	423,548.43
May	624,107.98	525,515.00
June	582,511.82	509,137.77
July	594,653.42	489,269.17
August	594,747.94	367,153.83
September	542,561.59	305,925.40
October	576,86?.09	347,812.83
November	546,859.43	285,692.09
December	534,185.04	282,542.41

The Tidewater Pipe Co., Ltd., also delivered in December 251,147.87 barrels of Oklahoma oil. The total deliveries of all grades by the Tidewater were 495,695.25 barrels.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Av. bbls. per wk.—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	Total All Ports
August	116,067	51,709	688,485	222,873	151,970	1,331,104	.....	24,612	219,030	.....	243,642	1,474,746
September	205,600	47,400	516,200	124,200	126,600	1,000,000	.....	140,600	.....	.....	140,600	1,140,600
October	195,000	56,000	626,000	220,000	107,000	1,178,000	.....	208,000	.....	.....	208,000	1,386,000
November	136,731	36,281	659,169	156,800	86,169	1,074,031	.....	219,331	.....	.....	219,331	1,293,369

AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Av. bbls. per wk.—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	Baton Rouge New Orleans	Sabine Pass Pt. Arthur	Tampa	Total	All Ports Total
June	62,800	84,200	358,200	153,400	161,800	757,600	301,000	228,400	212,400	45,800	787,600	2,333,800
July	71,750	116,250	451,500	112,000	218,750	970,250	367,750	280,000	208,250	23,000	879,000	1,849,250
August	116,065	89,113	374,613	102,970	197,127	879,888	338,485	266,224	234,388	45,633	1,295,730	2,175,618
September	53,600	113,000	353,200	132,000	149,600	801,400	355,200	279,400	176,000	44,800	714,200	1,656,600
October	91,250	48,000	198,500	134,000	204,000	800,750	247,000	352,500	95,000	12,500	707,000	1,507,460
November	67,200	108,869	270,'69	122,500	195,060	764,200	345,490	359,331	147,469	33,367	885,731	1,646,131

GROSS PRODUCTION BY MONTHS AND DAILY AVERAGE IN THE U. S. FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Wyoming-Montana	Other fields	Total
January:	Month	16,457,445	13,328,574	9,866,310	2,638,875	3,232,959	2,474,746	3,208,412	3,429,142	54,636,463
	Daily average	530,885	425,817	318,267	85,125	104,321	79,831	103,497	110,617	1,762,467
February:	Month	16,426,759	12,445,020	7,998,547	2,360,288	2,752,924	2,092,524	2,970,760	2,911,090	49,957,912
	Daily average	586,670	444,465	285,662	84,296	98,319	74,733	106,095	103,964	1,784,211
March:	Month	19,608,192	13,958,828	9,176,520	2,588,531	2,834,330	2,334,765	3,358,011	3,469,397	57,328,574
	Daily average	632,522	450,188	296,017	83,501	91,430	75,315	108,323	111,935	1,849,309
April:	Month	20,695,959	14,399,610	8,548,651	2,624,430	2,893,290	2,224,800	3,670,984	3,286,090	58,343,814
	Daily average	689,965	479,987	284,955	87,481	96,443	74,160	122,366	109,536	1,944,794
May:	Month	21,535,365	15,658,782	8,826,829	2,852,217	3,250,846	2,298,804	3,650,903	3,550,357	61,624,103
	Daily average	694,689	505,122	284,736	92,007	104,866	74,155	117,771	114,527	1,987,874
June:	Month	22,667,106	15,572,730	9,129,282	2,797,830	3,401,172	2,086,670	3,470,176	3,413,155	62,538,121
	Daily average	755,570	519,091	304,309	93,261	113,372	69,392	115,672	113,771	2,084,604
July:	Month	25,262,082	15,260,184	11,258,042	2,448,566	3,713,738	1,882,481	4,245,547	3,334,110	68,004,750
	Daily average	814,906	492,264	382,518	78,986	119,798	60,725	136,953	107,552	2,193,702
August:	Month	26,440,005	14,049,076	12,157,429	2,316,320	3,292,580	1,952,349	4,290,406	3,479,077	67,977,242
	Daily average	852,903	453,196	392,172	74,720	106,212	62,979	138,400	116,969	2,192,814
September:	Month	25,762,487	12,812,220	12,879,682	2,234,730	3,164,900	1,787,430	4,561,550	3,269,551	66,472,550
	Daily average	858,750	427,074	429,323	74,491	105,497	59,581	152,052	105,468	2,215,752
October:	Month	24,576,400	12,961,782	15,933,383	2,336,346	3,120,274	1,837,990	3,540,860	3,475,913	67,782,948
	Daily average	792,787	418,122	513,980	75,366	100,654	59,290	114,222	112,126	2,122,093
November:	Month	22,397,848	12,334,620	15,556,507	2,268,840	2,973,000	1,816,860	4,792,466	3,138,464	65,278,606
	Daily average	746,595	411,154	518,550	75,628	99,100	60,562	159,782	104,615	2,175,953
December:	Month	21,899,247	12,232,259	10,065,856	2,345,150	4,017,850	1,919,574	3,304,326	3,147,812	58,932,074
	Daily average	706,427	394,589	324,705	75,650	129,608	61,922	106,591	101,542	1,901,034
	Twelve months	263,728,895	165,013,685	131,997,038	29,812,123	38,647,863	24,708,993	45,064,421	39,904,153	738,877,176
	Daily average	723,416	452,092	361,636	81,677	105,884	67,696	123,464	109,326	2,024,231

for

longer
Tube **life**
better
Tube **service**

When you open your copy

of "Preventable Losses in Oil Refining" you open the door to increased profits, to reduced tube renewal and cleaning expenses, to lower fuel costs, to greater still capacities.

This book is worthy of a part in the essential equipment of every oil refinery executive. It will be sent promptly upon request. The coupon here is for your convenience. *Use it!*

The Calorizing Co., 301 Oliver Bldg., Pittsburgh, Pa.
Please send me "Preventable Losses in Oil Refining."
Name.....
Address.....
Title.....

THE CALORIZING COMPANY
301 Oliver Bldg., Pittsburgh, Pa.
Eastern Office: 50 Church St., New York

District Offices:
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Cleveland, Leader News Bldg.
Detroit, General Motors Bldg.
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Kansas City, Commerce Bldg.

Economize!
Modernize!
Calorize

CHAMPION

There is no excuse for a vital part of any piece of equipment failing to do its part under fair conditions. Such failure manifests a lack of give and take strength that is available through the use of tough and sturdy forged parts. And the limitations are becoming fewer day by day. Put drop forged parts in your specifications for equipment.

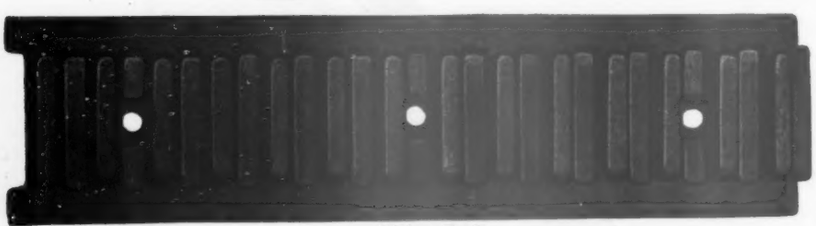
THE CHAMPION MACHINE & FORGING CO.
3695 East 78th St., Cleveland, Ohio
New York Office: 30 Church St.
Philadelphia Office: Bourse Bldg.
Detroit Office: 705 Ford Bldg.

Gear Blank
Weighs 208 lbs.
Diameter, Outside: 26¾"
Depth: 4½"
Depth of Dish: 2½"

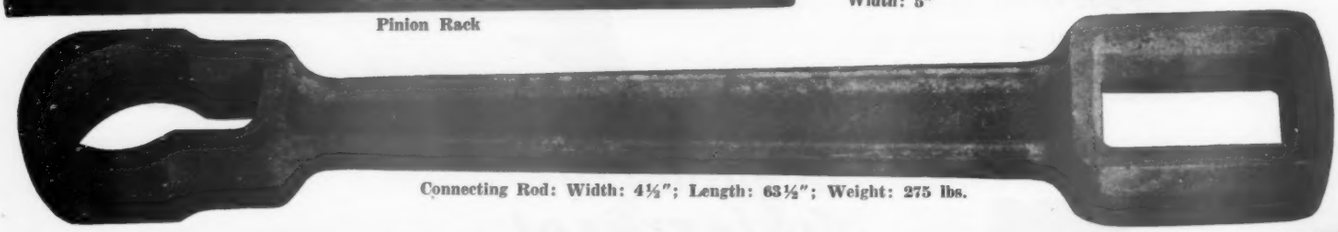
Bevel Gear and Worm
Diameter: 23½"
Depth: 10"
Weight: 308 lbs.

Clutch Casing
Diameter: 10⅝"
Depth: 6½"
Weight: 76½ lbs.

Gear Blank
Diameter: 27"
Width: 5"



Pinion Rack



Connecting Rod: Width: 4½"; Length: 63½"; Weight: 275 lbs.

DROP FORGINGS

15 Years and good for 15 more

Homestead Valve Mfg. Co.,
Homestead, Pa.
Gentlemen:
We have in use at our plant one dozen Homestead Valves on our gasolene run-down lines. I am satisfied that we could find no other valve that would give us the service that these have. Some of them have been in use more than 15 years, and from their appearance may be good for an additional 15 years. I will be very glad to recommend them to anybody for use in connection with gasolene lines.
Yours very truly,
Signed_____.

Experience 15

Homestead Quarter Turn Valves fill the bill because:

(1) The plug is always held on the seat and locked tight when closed by the improved locking cam.

(2) Of the individual attention given to the grinding of each valve seat.

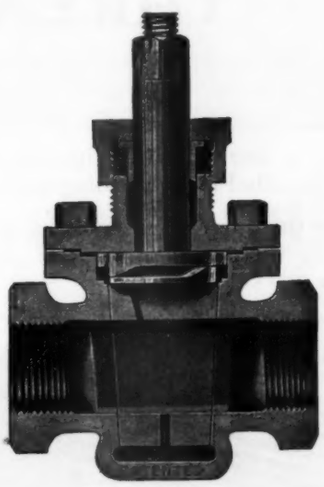
(3) Of the fact that it is sealed at the bottom and top and the stem passes through a leak-tight stuffing box.

(4) Of many other reasons.
See catalog.

If you have ever experienced any difficulty in getting valves to hold tight on gasoline pressure you will appreciate the full significance of above results.

Use Homestead Quarter Turn Valves for penetrating liquids.
For heavy or viscous materials.

For all high pressure and high temperature service.
All of our customers are securing perfect satisfaction.



PRODUCTS
HOMESTEAD QUARTER TURN VALVES
STRAIGHTWAY—THREEWAY—FOURWAY
HOMESTEAD LUBRICATED VALVES
HOVALCO BLOW-OFF VALVES
PROTECTED SEAT (B. & O. PAT.) VALVES
GLOBE—ANGLE—CHECK
PROTECTED SEAT OPERATING VALVES
(B. & O. PAT.)

Send for Catalog

HOMESTEAD VALVE MANUFACTURING CO.

Homestead, Penn.

Local offices in all cities. See telephone directory

HOMESTEAD

THREADED IN ONE PASS

Accuracy, Economy and Increased Production were the three requirements demanded by Frick and Lindsay Company, Pittsburgh, Pa., in cutting and threading pipe and casing, which they supply to the oil fields.

After a thorough investigation of the various type of pipe machines, it was decided to install the 6" and 12" Landis Pipe Threading and Cutting Machines shown in the photograph.

That they made a wise choice is proven by a recent statement that Landis Chasers are quickly and accurately threading all sizes of pipe up to 12" in **one** pass—thus greatly increasing production and effecting a marked economy.

The high cutting speed is due to the distinctive design of the Landis Chaser which has a line contact with the pipe, thereby reducing the friction at the cutting edge. The variable rake or cutting angle of the chaser together with the natural clearance insures a good thread at all times. The fact that one set of chasers will thread any diameter within the range of a head provided pitch, form and taper of thread are constant—means big time saving and low upkeep cost. Then, too, Landis Chasers are merely given a slight grinding at the cutting edge when dull. This feature with the long life of the chaser is invaluable to you.

Landis accuracy, economy and high production possibilities will work as well for you as for hundreds of Landis users.

May we send you our catalog?

LANDIS MACHINE COMPANY

WAYNESBORO, PA., U. S. A.

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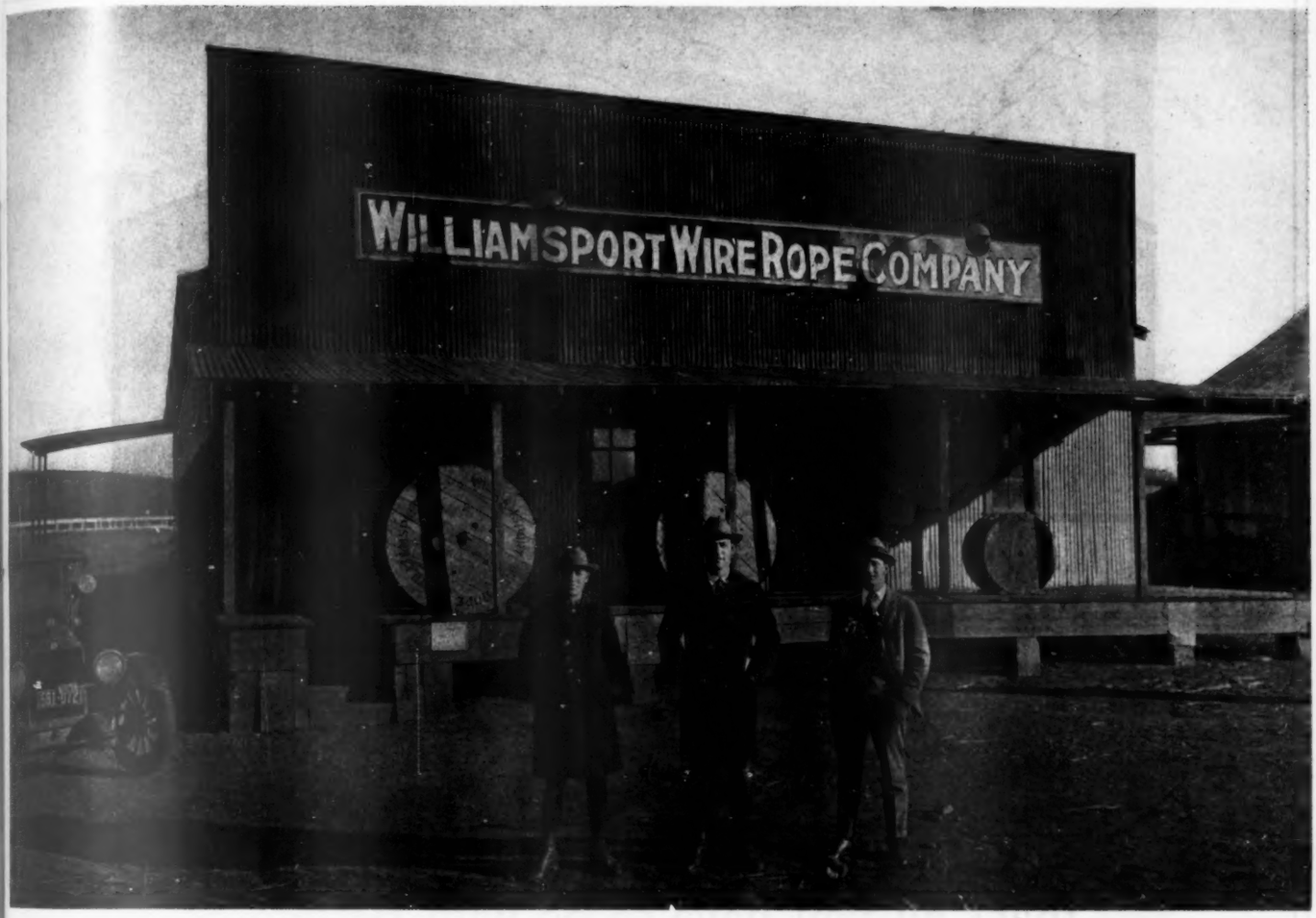

Graham Warehouse and Staff

To the operator in the Graham district who desires real wire line service, we can heartily recommend WILLIAMSPORT Lines and the men at Graham who stand back of them guaranteeing you the right selection as to style and material, and prompt deliveries.

Left to right, above, the men are H. M. Rehders, warehouseman; C. E. Humphrey, WILLIAMSPORT District Manager, and J. A. Undercofler, representing the Williamsport Development Company, manufacturers of the famous "Lubrikup."

WILLIAMSPORT have made an exhaustive study of the manufacture of wire lines especially to meet the many requirements of Oil Industry work. There is a WILLIAMSPORT Line for every Oil Industry need. Our men are thoroughly posted and can give you dependable advice.

WILLIAMSPORT WIRE ROPE COMPANY

Kennedy Bldg., Tulsa, Okla.

DISTRICT OFFICES:

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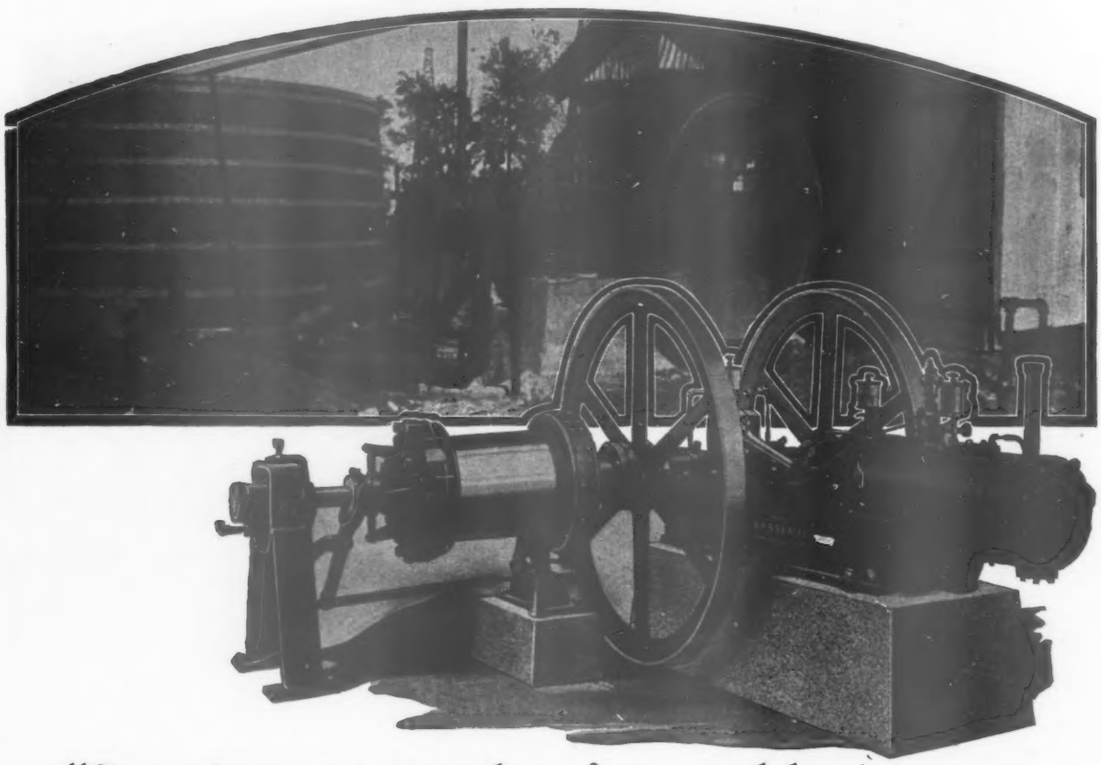
WE GIVE SERVICE IN EVERY IMPORTANT FIELD

WILLIAMSPORT



"Start 'em up, regulate 'em and let 'em run—that's all you have to do with Bessemers"

DOWN in Olden, Texas, a Bessemer operator made that comment from experience with Bessemers gathered over many years.

99 per cent and better operating time records are not unusual with Bessemers—they are the usual thing—as you will quickly find if you go out in the fields.

Bessemer performance is built on Bessemer simplicity—on what Bessemer owner describes as "not too many triggers."

Bessemers aren't merely good in theory—they're good *in practice*—and that's what counts.

THE BESSEMER GAS ENGINE COMPANY
52 York Street Grove City, Pa.

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

This Swab Won't Wear Out Casing

The testimony of users in every important oil district supports our statement that the GUIBERSON Swab will not wear out casing.

One operator recently ran a GUIBERSON Swab 72 days in one well. The casing showed no wear whatever.

This lack of wear on casing is due to (1) the fact that GUIBERSON cup rims are held against the casing not by a constant pressure of tightly compressed rubber, but by fluid pressure which though more effective, exerts a gentler, more readily yielding pressure; and (2) the fact that the bearing surface of GUIBERSON cups is small.

The success of this specialty has been almost unparalleled. In less than a year it has taken a pronounced lead in its field. In several important fields over 90% of all swabbing is now done with GUIBERSON Swabs.

Fully patented. Order through your supply house.

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas
CALIFORNIA BRANCH: 1737 E. 7th St., Los Angeles
314 New Daniel Bldg., TULSA **825 Mason Bldg., HOUSTON** **506 Trust Bldg., NEWARK, O.**

202

GUIBERSON
BETTER BE SAFE THAN SORRY

The answer to a cry for more tank storage in the Elk Hills Field in California. This tank was swung aboard a motor truck and rushed off across country. The tank has a capacity of 1500 barrels, is 30 feet in diameter and 24 feet high

SAVING THE OIL

OIL gushes from a new well. The need for more tank storage is urgent. So to prevent the oil from rushing over the surrounding country and being wasted, a huge storage tank is sent to the rescue.

Consumption of crude and refined oil increases each year, and every barrel of crude oil stored and saved is worth many times the effort.

But just as important as saving your oil is preservation of your costly metal storage tanks. Such tanks represent a capital investment that neither the oil industry nor you can afford to waste. If you do not keep your storage tanks protected against rust, repair and maintenance costs will mount quickly. Rust can destroy the tank that is not thoroughly protected.

No matter where a tank is—or any other metal oil equipment for that matter—it is constantly in danger from the attack of rust. And rust will see to it that such iron and steel if left unpainted will soon look like the metal in Plate "A" shown elsewhere on this page.

"A"—WITHOUT RED LEAD. The microscope shows what rust does to unprotected metal surfaces in a comparatively short time. Note the deep-rooted incrustation.

Keeping your metal like "B"

Red-lead paint will keep metal surfaces looking like "B"—untouched by rust. Experience has taught many owners of oil refineries, tank cars and storage tanks that when equipment is kept thoroughly covered with pure red-lead maintenance costs are held down to a minimum.

Because it is *pure* red-lead, Dutch Boy red-lead supplies complete protection against rust to all metal surfaces. Mixed with pure linseed oil and spread on clean metal it sticks tight. It gives a tough, elastic coating that expands and contracts with the metal without cracking and lasts long.

"B"—WITH RED LEAD. Here the microscope shows a metal surface protected by the standard three-coat covering of red-lead. Note the perfect condition of the surface of the metal. Rust cannot form here.

DUTCH BOY RED-LEAD

You can get Dutch Boy red-lead in paste form and also as a liquid ready for the brush. The *liquid* comes in the natural red-lead color and also in light and dark green, light and dark brown and black for finishing coats. The *paste* comes in the natural color and can be shaded to browns, greens, black, etc.

White for finishing coats

When you want finishing coats of light-colored paint to reduce heat absorption by the tank metal and decrease evaporation, use white-lead over under-coats of red-lead. Paint made of Dutch Boy white-lead and pure linseed oil can be left white or it can be tinted to any desired light color.

For specific advice on protective paint coatings for metal surfaces, write us.

Save the surface and you save all—Paint

LITHARGE

We also make litharge of the correct physical character and chemical purity for oil refining. You can rely on its unvarying uniformity at all times. Our nearest warehouse can give you quick shipment.

NATIONAL LEAD COMPANY

New York, 111 Broadway; Boston, 131 State Street; Buffalo, 116 Oak Street; Chicago, 900 West 18th Street; Cincinnati, 659 Freeman Avenue; Cleveland, 820 West Superior Avenue; St. Louis, 722 Chestnut Street; San Francisco, 485 California Street; Pittsburgh, National Lead & Oil Co. of Penna., 316 Fourth Avenue; Philadelphia, John T. Lewis & Bros. Co., 437 Chestnut Street.

"ISCO" connects oil field supply manufacturers *and* users through SERVICE~*Good Service!*

Put your oil field needs up to us for Real Service on Quality Goods~NOW!

ADV.4

INTERNATIONAL SUPPLY CO.

Branch stores in 18 of the leading oil field towns in Oklahoma, Kansas, Wyoming and Montana.

General Offices and Works
Tulsa, Okla.

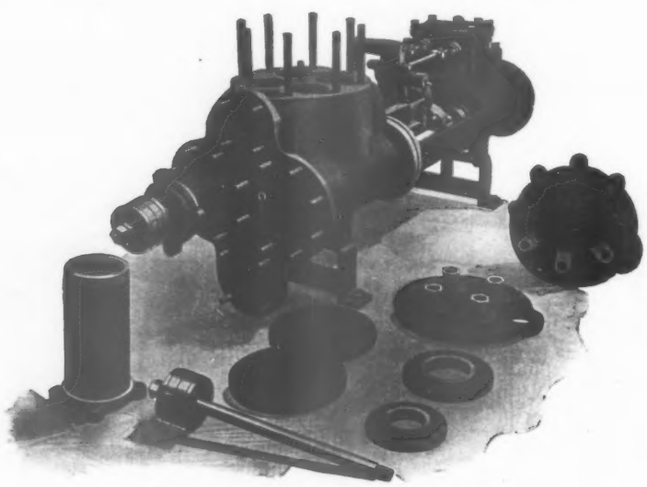
District Offices: Denver, Colorado, and Fort Worth. Texas

REFINERS!

Several years ago, as pump purveyors to the oil industry, we developed and furnished in large numbers, a pump especially adapted for refining service.

The first of these pumps went to the Eagle Works of our Standard Oil Company of New Jersey, and we, therefore, called it our

Eagle Works Type



Disassembled view of the 7½x5x10" size.
Made in all sizes from the 6x3x6" to the 10x7x12" for 200 lbs. working pressure.

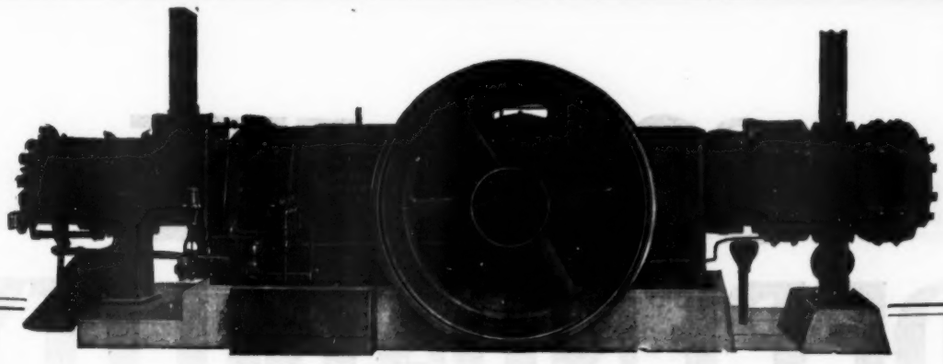
For a universal refinery pump, there is nothing to date that quite takes its place. Made very simple, as a refinery pump must be, there is nothing much to describe or feature, except the fact that it has either cast iron or cast bronze cylinder liners, bolted in—easily removable. Steel or bronze piston rods and cast iron or bronze fluid pistons.

The valve equipment consists of bronze screwed seats, bronze valves, bronze stems screwed into the seats and bronze springs. Rubber valves may be ordered in place of bronze.

Bulletin 101 on these pumps on request.

NATIONAL TRANSIT
Pump & Machine Company
Oil City, Pa.

District Offices: New York Philadelphia Pittsburgh Cleveland Tulsa Houston Denver



CLARK
GAS COMPRESSORS

WE HAVE never had a crankshaft failure—Unusual perhaps, but true— the reason is obvious—in the CLARK GAS COMPRESSOR we use an 8-inch Crankshaft.

This point important in itself, is characteristic of the Clark Compressor as a whole—with extra heavy construction and skillful design it also adds the real advantage of more power and greater capacity.

THE CLARK DIRECT DRIVEN GAS COMPRESSOR is the favorite of the operator. This insures low operating cost.

Complete bulletins gladly mailed upon request.

Clark Bros. Co. Olean N.Y.

CLARK BROTHERS COMPANY
Olean, New York
Manufacturers of Gas Compressors and Drilling Engines

Sales Agents:

GAS ENGINEERING & CONSTRUCTION CO.

405 Kennedy Bldg. Tulsa, Okla.

Union Bank Building Pittsburgh, Pa.

206 Consolidated Royalty Bldg. Casper, Wyoming

COMPLETE DEPENDABILITY

The superintendent in charge of production; the driller in charge of the crew; the roughnecks around the rig; they all know the necessity of "Complete Dependability" in the equipment they use.

Gumbo Buster Products, from the big flat-top Rotary to the smallest part, are completely dependable. They have been proving this for a quarter of a century. They have stood the test of time—and met the demands of strenuous service.

You, too, can depend upon Gumbo Buster products to last longer, keep on running, and require the minimum in general upkeep.

REPUBLIC SUPPLY CO.
Distributors
Texas—Oklahoma—Arkansas—Louisiana

'GUMBO BUSTER' PRODUCTS

—Rotary
—Pump
—Drilling Engine
—Draw Works
—Traveling Blocks, Etc.

AMERICAN WELL & PROSPECTING CO.
CORSICANA, TEXAS.
CALIFORNIA BRANCH—LOS ANGELES

P.I.W.
STEEL PLATE CONSTRUCTION

What Is Tank Satisfaction?

It's knowing that the contents of your tanks are held safely from fire and evaporation. It's the knowledge that they always operate with the very minimum of human attention. And it's knowing that the human contact, no matter how careless, cannot harm them.

How to Get It

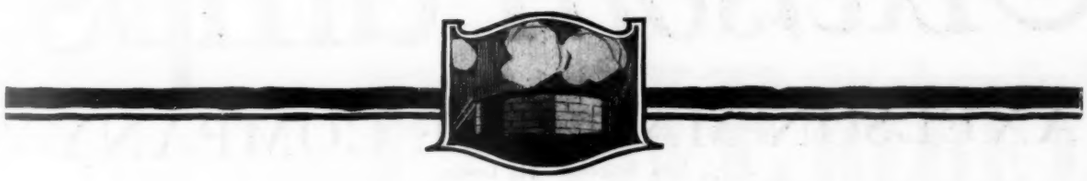
Buy only gas-tight, steel roof tanks equipped with laboratory approved fittings. But buy them from a reliable fabricator who stakes a reputation on every job. In other words, **buy them from P. I. W.**

"P. I. W. Service Is World Wide"

The Petroleum Iron Works Company

Sharon, Pa.

New York St. Louis Tulsa Houston Casper San Francisco



"Happy? why shouldn't I be? The boss is going to let us use *Axelson* Pumps"

It makes the boys on the job feel like they are bringing in a new producer when the Boss tells them he's ordered Axelson Pumps. Can't blame them for taking renewed interest in their work.

Ask for Catalog

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

Copyright 1923 Axelson Machine Company Los Angeles

Axelson Pumps

AXELSON MACHINE COMPANY

Los Angeles—St. Louis

Mid-Continent Office: 1023 Kennedy Bldg., Tulsa, Okla.

Mid-Continent Distributors: Frick-Reid Supply Co.

Fighting Rust on Oil and Gas Tanks with Sublimed Blue Lead in Oil

SUBLIMED Blue Lead in Oil effectually combats the unconfinable fumes and active gases that are constantly speeding the corroding action of wind and water attacking exposed metal surfaces of oil and gas containers.

One hundred pounds of Sublimed Blue Lead in Oil will rust-proof 5216 square feet of iron or steel of average smoothness.

Sublimed Blue Lead in Oil works into seams and joints and spreads smoothly over rivet heads. The paint film produced grips tenaciously on the metal surface.

It works so smoothly and so easily under the brush that a painter can cover greater area in a day and still produce a paint film that is free from brush marks, breaks, runs or alligatoring. Sublimed Blue Lead in Oil will not harden in the container.

Sublimed Blue Lead in Oil has proven its durability as a long time protector of metal surfaces both in the field and in technical tests. Send for your copy of "Fighting Rust with Sublimed Blue Lead."

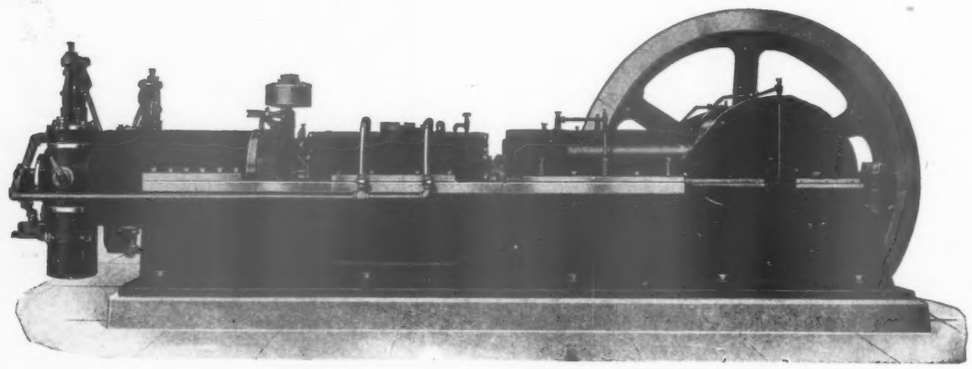
The EAGLE-PICHER LEAD COMPANY · 868-208 *South La Salle Street* · CHICAGO

EAGLE *Picher Sublimed* BLUE LEAD *in* OIL

CINCINNATI CLEVELAND PITTSBURGH PHILADELPHIA NEW YORK MINNEAPOLIS
BUFFALO DETROIT BALTIMORE NEW ORLEANS KANSAS CITY ST. LOUIS JOPLIN

Plants: CINCINNATI NEWARK GALENA, KAS. HENRYETTA, OKLA. PICHER, OKLA.
EAST ST. LOUIS, ILL. CHICAGO ARGO, ILL. JOPLIN, MO. HILLSBORO, ILL. (2 *Plants*)

INTERPOSED TYPE MILLER GAS COMPRESSOR



View of Watts-Miller direct gas engine driven compressor for natural gas. Compressor cylinder is INTERPOSED, that is, the compressor cylinder is located in the most advantageous position—i. e., between the power cylinder and the crosshead.

The INTERPOSED arrangement has the compressor cylinder located between the power cylinder and the crosshead. A second crosshead and piston rod are avoided. Only one crosshead and one piston rod are employed. Struts or tie rods are avoided.

Struts or tie rods break from the bending effect to which they are subjected at every stroke by parts being out of alignment, either from initial errors or resulting from wear. Als · struts or tie rods occasionally buckle from accidental causes.

Close alignment is easily secured at the outset between the power cylinder, compressor cylinder and crosshead. This accurate alignment is maintained because with the interposed arrangement there is very slight tendency for these parts to wear out of alignment.

Complete ACCESSIBILITY through employment of flat bed with cylinders bolted on top of bed. Either the power cylinder or the compressor cylinder may be removed without disturbing the other. Power piston or compressor piston removable without moving either cylinder.

Only one crosshead and crosshead guides, only one piston rod, no struts or tie rods—therefore minimum number of parts, minimum number of bearings, lowest repair cost, lowest friction, smallest consumption of lubricating oil, longest life and largest volume gas pumped for given horse power capacity.

The Miller Improved Gas Engine Company

Factory at Springfield, Ohio

Branch Sales Office and Warehouse for Service and Repairs: 323 North Cheyenne Ave., Tulsa

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